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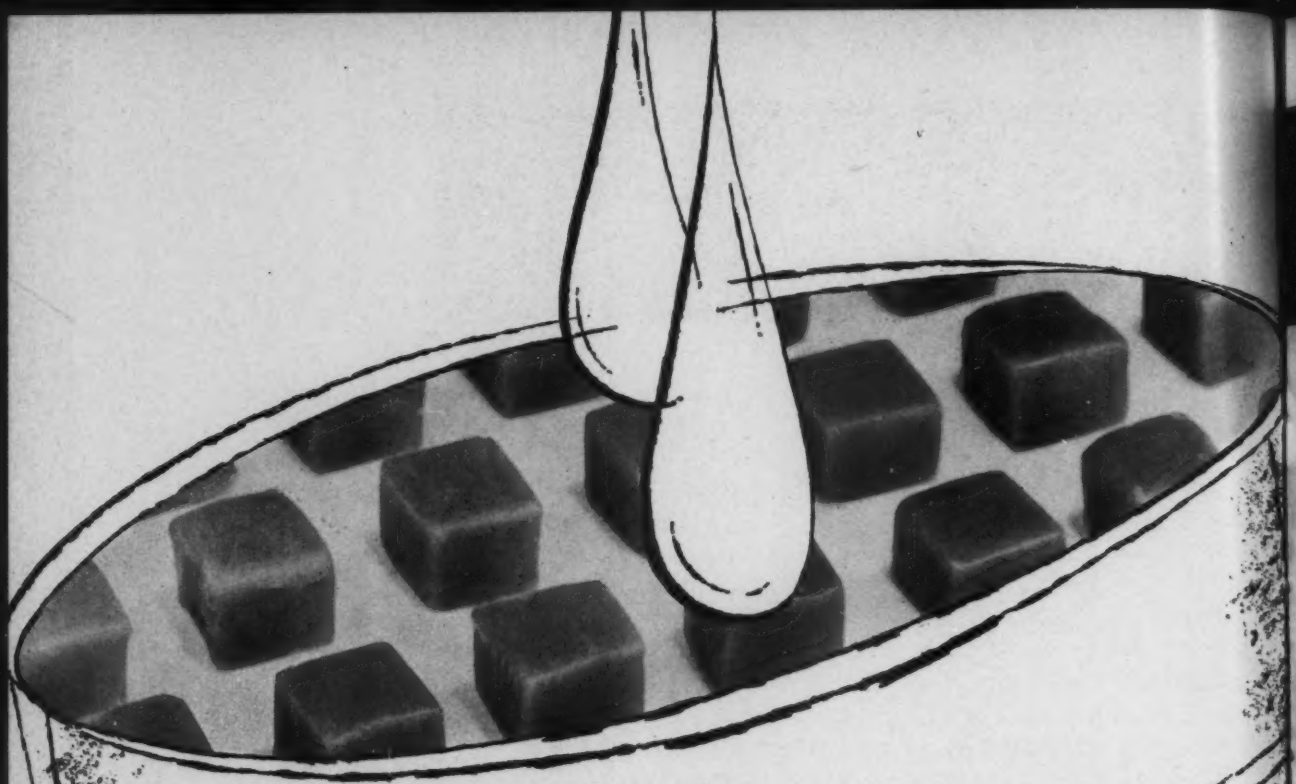

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MC candy business

Roy Turner, formerly sales manager for Nutrine Candy Company and most recently vice president in charge of syndicate sales for Bunte Bros. Chase, has been elected vice president and director of King Candy Company of Fort Worth and vice president of Boulevard Candy Company of Chicago. Turner will divide his time between Fort Worth and Chicago. The reason behind Turner's arrangement with these two companies is to provide sources for certain syndicate items that are fairly well located from the standpoint of shipping to all parts of the country. Both bulk and packaged items, specifically for the syndicate trade, will be made identically by both firms, and will be offered f. o. b. either city.

C. S. Brandenburg, formerly superintendent for Nutrine Candy Company and semi-retired for several years, has been retained as a consultant on production for King Candy Company.

Robert Mamoser is a new chemist at Williamson Candy Company. He has been in the Quaker Oats Research Laboratories for three years, and has a MS degree from Illinois Institute of Technology.

Herbert R. Dimling, owner of a candy shop in Pittsburgh and formerly owning a chain of retail shops there, died recently. He was a former president of the Associated Retail Confections of the United States.

T. W. Hilgendorf has been appointed general manager of the candy division of the Robert A. Johnston Company. He will assume overall responsibilities for both sales and production activities. Hilgendorf comes from Milprint, Inc., where he has been a sales and packaging engineer. Previously, he had been associated with the American Candy Company as a member of the board and sales manager.

Universal-Engel Box Company has purchased the F. J. Schleicher Paper Box Company, and will merge the manufacturing and sales organizations in the Engel factory. Robert A. Smiley is president, and William Engel sales manager. Frank and Lawrence Schleicher are vice presidents.

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Norman W. Kempf with the Walter Baker Division, General Foods Corporation, has been selected as the recipient of the seventh Stroud Jordan Award presented by the American Association of Candy Technologists. The award is in recognition of Mr. Kempf's many years of technical service to the confectionery industry, and his continual emphasis on the scientific aspect of candy making.

Mario A. Gianini, master candymaker with many of the finest firms in the business for a total of over 50 years, died April 27th at his home in California. Mr. Gianini has been credited with several innovations in candymaking, including the development of the method of making a wafer thin chocolate covered mint cream. He has been a production executive with Blums for the last few years.

Wilbur Klint, formerly advertising and merchandising manager for Bunte Chase, has joined King Candy Company in the same capacity.

Wool Candy Company, has been sold to a group who have appointed George Polemi president. Polemi was formerly sales manager for Boulevard Candy Company. Company plans are to remain in the hard candy business, with an increased line.

Zachary Confections, Inc. has moved his operations into the building formerly occupied by Nutrine Candy Company. These larger quarters for the firm, with a considerable amount of new equipment, will more than double the capacity of the firm, and make possible new items.

Big Ten Sales Company, candy brokerage organization covering several states headquartering in Chicago, has been dissolved by W. M. Cramer, its organizer. The former W. M. Cramer Company will be re-instated.

NCA Golf committee has planned the usual top golf outing for attendees of the convention at Medinah Country Club, for Monday, June 10th. The committee ironing out details are standing: R. N. Rolleston, G. H. Olsen. M. J. Rourke, Robert Flarsheim and Wayne Wild. Seated; E. N. Oftdahl, John Johnson and O. Walter Johnson.

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the Manufacturing Confectioner

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COVER: Candy apples are almost as rare as penny nut rolls these days, though they are a delightful novelty. They have, unfortunately, gone the way of most other hand made specialties of years ago, appearing once in a great while in some local shop, made by one who learned his trade many years ago.

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The Sweet and The Sour

Very few of those who knew Tresper Clark as chemist at Rockwood for many years knew of his "other job" that he carried during the same period from 1948 to 1955. This job was his position as President of the School Board in his home school district on Long Island.

The fact that this was in reality another job, is indicated by the fact that during the eight years he served on the board, the population of that District grew from 2,500 to over 50,000, and the buildings from two nine room schools to twelve schools, the largest with 63 rooms. During this period, when in many years the school population doubled from year to year, many months Mr. Clark spent 100 hours a month on school business.

The example of this one school district on Long Island is in the extreme a view of the national picture of the present school building emergency. In this one school district, however, there was a difference, Mr. Clark, together with his board, planned the school building program in such a fashion that, even during periods when the school population doubled year after year, the building and staff were there to give a full education to every child. In 1952 Mrs. Clark wrote a history of the community, which will be three hundred years old next year, and this became a text in the school.

This fall, a new combination senior and junior high school will be occupied, the largest in the school district. It will be named the W. Tresper Clark School, and will include the Mary Louise Clark Library.

Of particular interest is the establishment of a course on Food Handling, in the trade school. This course, as far as is known, is the first such course that treats food handling as a subject worthy of trade school instruction. Students taking this course may either go on to higher education in food technology, or go directly into the food processing or serving field. This development is truly one of note for the entire food field. For the first time students can get interested in the food field at the high school level.

The experience of Tresper Clark in the time and effort given to his school district is one of the finest examples of the kind of devoted public service for which America is known, and which makes the American kind of democracy and capitolism work.

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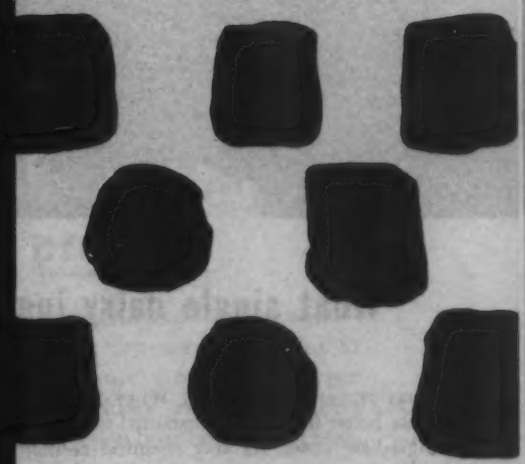

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the Manufacturing Confectioner

May 1957

Volume XXXVII—Number 5

A new look at . . . "frozen candy"

HERBERT KNECHTEL

Knechtel Laboratories

There are certainly two ways of looking at the problem of storing candy by freezing. It is most helpful in leveling the annual work-load. On the other hand, it is costly and there is some element of risk. True, there is very little chance of damage if the merchandise is handled properly, but, because it is usually brought out of storage at peak selling periods, there is always a chance that it will be mis-handled. If it is exposed to normal atmosphere too soon after removal from deep-freeze, it will pick up enough moisture to ruin both candy and packaging.

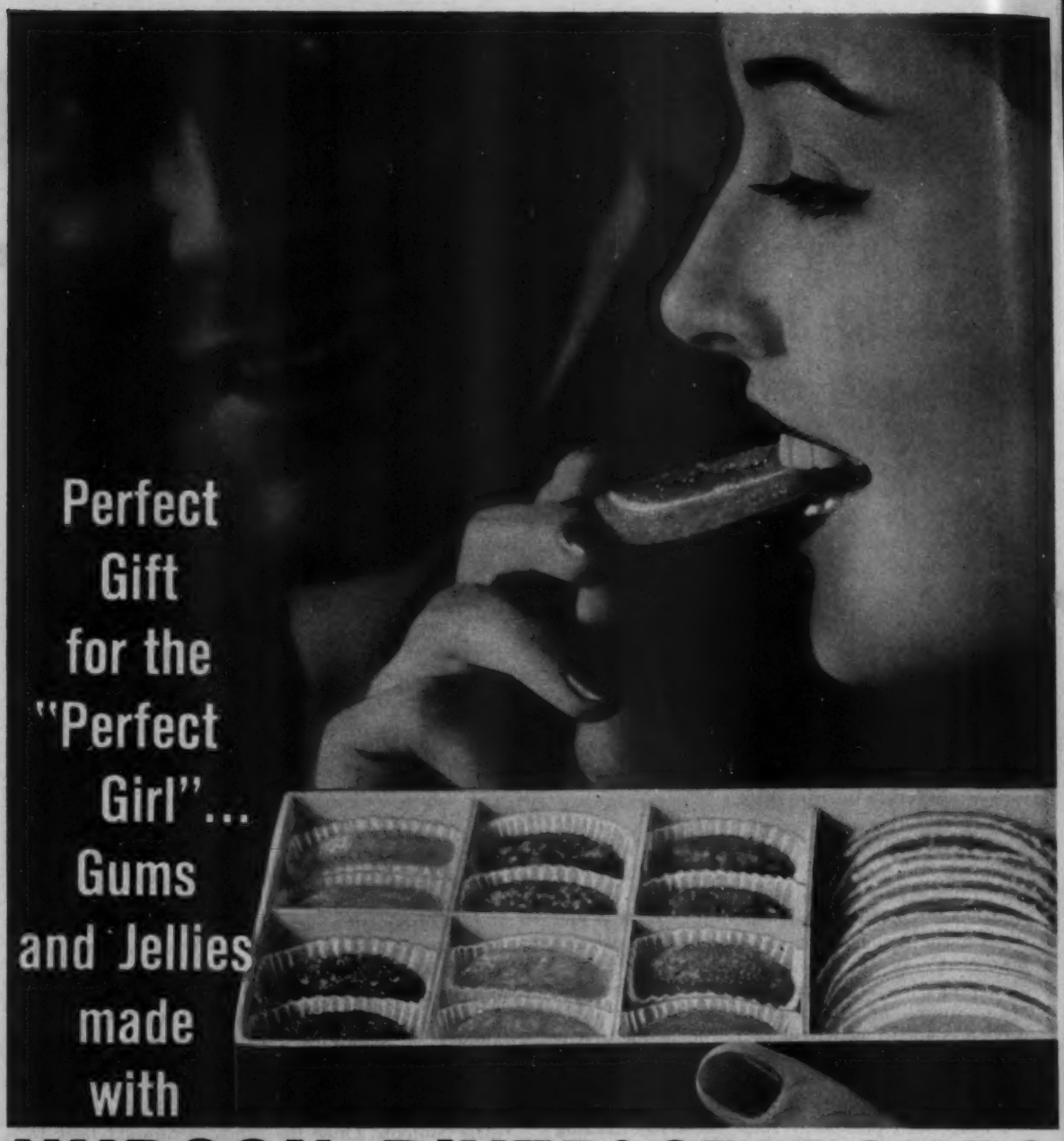
I have been personally responsible for freezing several hundred thousand pounds of assorted chocolates and other candies during the past few years. All of this has been in packaged form, pre-wrapped and ready for sale to the consumer.

It was possibly eight years ago that I first froze chocolates which were really meant for resale. This merchandise, each box Christmas wrapped and ready for sale, was packed into plain corrugated cartons, and stored at 20 degrees below zero. It entered storage in April and was removed just prior to Christmas. It was removed gradually, being held at zero for 24 hours, then held at 20 to 30 degrees for another 24 hours, and so on, until room temperature was reached, a total of about four steps. When opened, my associates and I were amazed to find that the candies were no different than fresh ones. In a triangular-type-taste-panel-test, the participants were unable to identify the eight month's old candy.

In subsequent years, we stored candy at 10 to 15 degrees above zero and used polyethylene liners within the cartons to eliminate the tempering-out procedure. The candy was trucked directly from the frozen storage to the storerooms and allowed to stand for a couple of days, or, long enough to attain room-temperature, before opening. The moisture damaged the cartons but the polyethylene liner protected the candy boxes and their contents. Once the candy is brought back to normal temperature, it takes up right where it left off upon being frozen. It begins aging at the same speed as it would have had it not been stored. The enzyme invertase which has been inactive during the frozen state resumes it's normal function immediately upon tempering.

Now, moisture-resistant corrugated board has been developed and perfected. I know of at least one company who specializes in cartons made from this board. Were I now directly concerned with

EDITOR'S NOTE: This paper was read at the Production Conference of the Pennsylvania Manufacturing Confectioners Association, April 25, 1957



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the freezing of candy for storage purposes, I would dispense with the cumbersome polyethylene and use this type of carton with a heavily sized kraft liner and a weatherproof glue.

After we began using the polyethylene seal, we extended the range of candies to undergo frozen storage to include jellies, bon bons, caramels, and almost everything. We found no evidence of color-fading, loss of flavor or moisture loss in the frozen candies. In my opinion, candy properly protected, will last almost indefinitely in the frozen state.

Frozen candy storage is costly, but in many cases the added costs do not off-set the desirability of such storage. Many manufacturing retailers do 30 to 40 per cent of their annual business between Thanksgiving and Christmas and can well afford this storage expense. This storage procedure enables the operator to retain well-trained personnel steadily employed throughout the year and eliminates the necessity of hiring marginal employees during peak production periods. Thus, there is a saving in direct labor cost, no overtime, no extras.

The added costs involved are a trucking expense to and from a commercial cold storage warehouse. The storage charges are approximately 47c per cwt. gross weight for the first month. This includes in and out handling charges. Then 30c per cwt. each succeeding month. The polyethylene liners cost from 6c to 10c each. In other words, boxed candy can be stored at zero temperature for six months for approximately 3-1/4c per pound. This figure includes trucking expense but does not cover the interest on the money invested in inventory.

There is little doubt that this method of preserving candy is nearly 100 per cent effective, but it is an individual problem and the facts and variables must be considered. On the one side there is cost, and on the other side the possibility of increased sales through having available an adequate supply of candy when needed. There is certainly a saving in direct labor by eliminating undesirable extra employees and the over-all quality should be better for the same reason.

Whether it is possible to sell or advertise candy subjected to freezer storage as fresh candy is important and also somewhat questionable. I don't know how it applies generally, but under Illinois law, an act to regulate refrigerated warehouses, it is unlawful to represent or advertise as fresh any article of food which has been held under refrigeration for a period of thirty days or more. This should be checked with local or state authorities before consideration is given to a freezing program.

This brings me to the second, and what I think is the most important portion of this subject. Why not take advantage of the trend toward frozen foods?

The confectionery industry is not stagnant but its sales do not reflect the sharp upward trend of the soft drink or certain other specialty foods. Candy merchandising offers many unexplored areas which research can open. One way that sales of candy may be increased is through the making and merchandising of frozen candies.

Frozen foods are not particularly new. Freezing has long been known as a method of food preservation but frozen foods made little progress until the development of the "quick freeze" process. Foods, such as fruits, vegetables, and meats, contain high percentages of moisture—much higher than those of confections. Ordinary freezing causes the formation of large ice-crystals which rupture the cellular structure resulting in weeping and unattractive products when thawed. "Quick freezing" causes the formation of small ice crystals which do not damage the structure and products so frozen appear normal when defrosted.

This freezing and crystallation of ice is analogous to the making of a fondant. Large sugar crystals will be formed if the fondant syrup is beaten when hot; small crystals will result when the fondant syrup is cooled to proper temperature before beating.

There are upwards of 1,200 frozen food packers in this country. The frozen food output of vegetables increased from 356 million pounds in 1947 to 896 million pounds in 1952. A sensational development has been the processing of frozen orange concentrate from 200,000 gallons in 1945 to over 60 million gallons in 1956.

In 15 years there has been an increase of more than 500% in frozen food production. This percentage increase excludes frozen juice concentrates which were practically unknown fifteen years ago.

Freezing methods which were inadequate to handle the requirements immediately after World War II have now much improved and the public's taste has turned even more toward frozen foods.

If you examine the frozen food chests in a supermarket you will find cakes, cake mixes, complete dinners, fish, frozen doughs, fruits, and fruit juices, pancakes, pizzas, meat, ice cream, and frozen desserts—but no candy. Why?

Can frozen candy be sold through this medium? Some firms have tried but they have not enjoyed too much success. This failure or lack of success, in my mind, stems from a basic principle. There is no good reason to sell frozen candy, nor is there any good reason why customers should purchase it. The candy which has been marketed as frozen candy hasn't been designed as such. Ice cream, frozen desserts, soft-frozen custards and similar products were designed to be sold in the frozen state. Freezing has been used as a means of storing candy, not for selling it.

In my opinion, this unexplored market is not in merely freezing a line of candy, but in developing, making and merchandising a line of candy formulated for freezing. Why not build a line especially designed for freezing and which can be marketed as frozen candy?

Basically, this is sound. I have done considerable

work along this line, making caramels, fudges, creams and other types, all extremely low-cooked, in an effort to test the feasibility of such a project. Some were coated with low-melting chocolate and others were designed to be left uncoated. This was all checked and tested over a period of several months.

This idea entered my mind during the last war when we candy men learned that chocolate made purposely with a high melting point was far from a delightful confection. It just wasn't good! Some candy, now being imported, is difficult to eat and when eaten, lacks taste-appeal. Now, the lower the melting point of chocolate, the more appealing it is taste-wise. This is true of almost any confection and of certain other foods as well. The faster the food explodes or disintegrates against the taste-buds, the greater the eating enjoyment. However, in the past, it has not been possible to transport, store or merchandise exceedingly soft candy.

I had the good fortune to develop a chocolate candy piece which over the years has proven a very-best-seller for a firm in Chicago. This piece has practically no added flavor and has only one good, solid claim for good eating qualities, namely, the solid chocolate center has a reduced melting point. Unfortunately, in order to merchandise this candy, a protective shell or coating of regular melting point chocolate is necessary. This detracts from its palatability. Could this piece be merchandised without its protective coating, there is no doubt in my mind but that its popularity would be greatly increased.

Now, it is possible to sell this candy in a simple form, without the protective shell, as a frozen or ice box confection. Hundreds of other candies will be equally as delicious if made in a low-cooked or low-melting form. These candies should be formulated so that they attain their best eating qualities when served at 35 to 40 F., at the temperature of a home refrigerator.

The very fact that the candy is frozen permits the use of dairy products without the fear of oxidative rancidity. For example, take a butter caramel, cooked to somewhere around 235 F. Eat it when its temperature is near that of a dispensing cabinet or home refrigerator, say 40 F. It can be handled but practically disintegrates in the mouth, leaving the nicest taste sensation ever experienced. If you are skeptical, make up some, eat them, you will be convinced! This candy doesn't need much in the way of milk solids: freezing or cold temperature will hold it in shape.

It might seem that this type of manufacture would pose a production problem. On the surface, processing would necessarily be required under cool conditions—a cool room. Low-cooked caramels and nougats would seem to have to be chilled before they can be cut.

Several consumer preference tests have been conducted on a small scale to ascertain how the consumer best likes his candy served. To my knowledge, no extensive surveys have been made on this subject. Do consumers like candy easy to get at or do they prefer to peal away a wrapper or remove a paper cup? Results have shown that the candy-eater associates an atmosphere of cleanliness with candy which has obviously been cast directly into paper or foil cups—untouched by human hands. Participants in these tests have been unanimous in their preference for candy which has to be removed from direct contact with fluted cups. This is somewhat evidenced by the popularity of chocolate peanut butter cups. I doubt that this item would have been anywhere nearly as popular if it had been made in conventional hand-roll style.

Therefore, paper cups seem to be the natural way of handling low-temperature candies. This can be accomplished on standard equipment at regular room temperatures—a low cost way of making candy that eliminates all cutting and wrapping procedures.

An assortment of candies can be made with a standard depositor and the variations necessary to enhance the appearance of the assortment can be easily effected. The candies themselves are going to be brighter and more appealing to the eye due to the reduced amounts of milk solids and lower cooking temperatures, making them more receptive to artificial coloring. Nut meats and other decorations may be sprinkled on top as these in turn are protected by freezing.

A wide range of cellulose and foil receptacles exists into which this candy may be cast. For inspiration, one need only examine some of the European assortments with their filled cornucopias and other novelties.

The part of this report in which I offer a plan for new candies, new taste sensations, greater public acceptance and increased candy sales is simple because it is merely my way of trying to introduce an idea. In this form it should have been presented to a merchandising group. It is definitely a merchandising idea but because of the nature of the project it must stem from the research and production departments or the merchants will never learn of its merits.

If there is anyone here who is at all interested, then, I ask them to make some undercooked candies, using plenty of dairy products and serve them at ice-box temperature. You will agree that nothing as fine tasting has ever been sold.

AACT annual meeting

The annual meeting of the American Association of Candy Technologists will be held on the campus of the Illinois Institute of Technology, on the invitation of the Food Engineering Department. The meeting will be in the MC building at 10 West 33 Street, Chicago, June 10, from 9AM 'till Noon. Luncheon will be served on Campus, with AACT business meeting and installation of new officers afterwards.

MC CANDY EQUIPMENT PREVIEW

Latini's Proven Profit Maker

225 Pops Formed & Wrapped Per Minute

Low labor cost pop operation—one operator does work of 4 people.

The wrapped pops go right through for cooling, then packing.

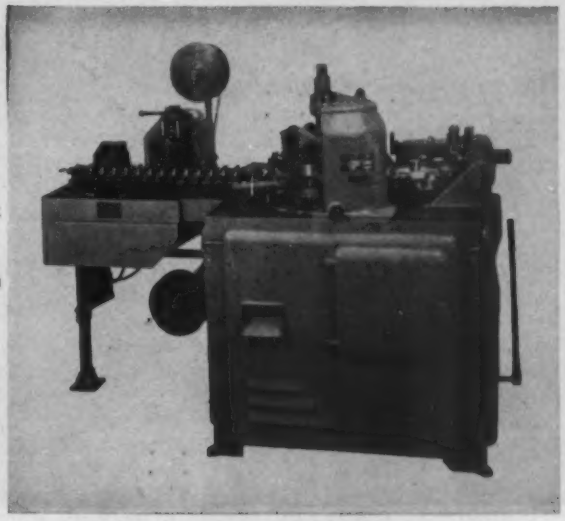
There is no handling, chipping, breaking, etc.—

Die pop is free of fins—eliminating scrap.

Positive stick insertion—all straight and true.

Weight of pop is variable without change of dies.

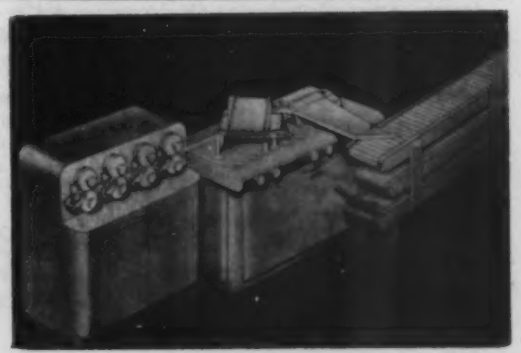
Sandwich wrap saves up to 50% of other type wraps.



LATINI DIE POP MACHINE WITH CONTINUOUS WRAPPING ATTACHMENT

HOHBERGER CONTINUOUS CREAM MACHINE

Fondant at its Best
Smooth
Creamy and
Shiny White
up to 2000 lbs. per hour
Straight Sugar Fondant or
with any amount of
Corn Syrup



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New Style—Twister, Cutter & Straightener
Flexible—Satisfies all lengths and diameters
Productive—Up to 1200 inches per minute
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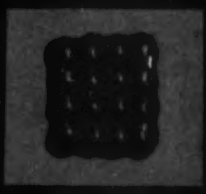
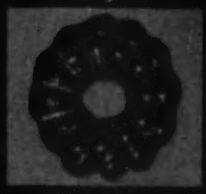
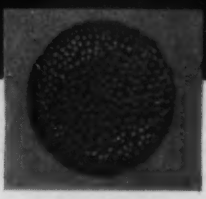
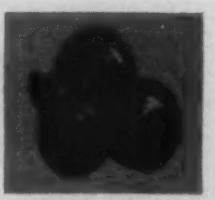
here's why America's largest chocolate manufacturers depend on the famous

RACINE CHOCOLATE DEPOSITOR









There's good reason why these manufacturers—America's largest and best known—prefer and rely on The Racine Chocolate Depositor exclusively for producing solid chocolate goods, such as stars, bits, wafers, patties, non-pareils, midget bits, and others.

Automatic! Automatically, the Racine Chocolate Depositor casts, cools and then discharges the candies. No molds are used—the candy is cast directly on a polished steel conveyer belt.

Only 1 Part-time Operator Required! Automatic and continuous, only one operator is needed to control the machine—even at maximum capacity.

Quality! Chocolates produced with the Racine Chocolate Depositor have a higher gloss and finish—they retain their full color and luster—in all ways, they're better.

Now, you too can make better chocolate products faster, with the Racine Chocolate Depositor—the one the leaders use. Write today for complete information.

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V R

RACINE CONFECTIONERS' MACHINERY CO.

15 PARK ROW, NEW YORK 38, N. Y.

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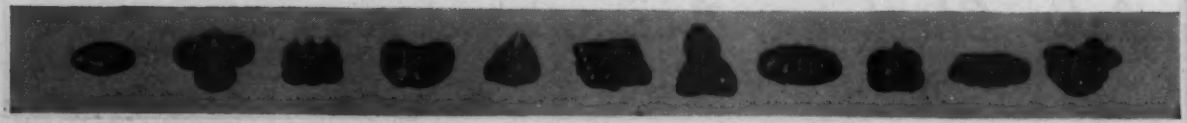

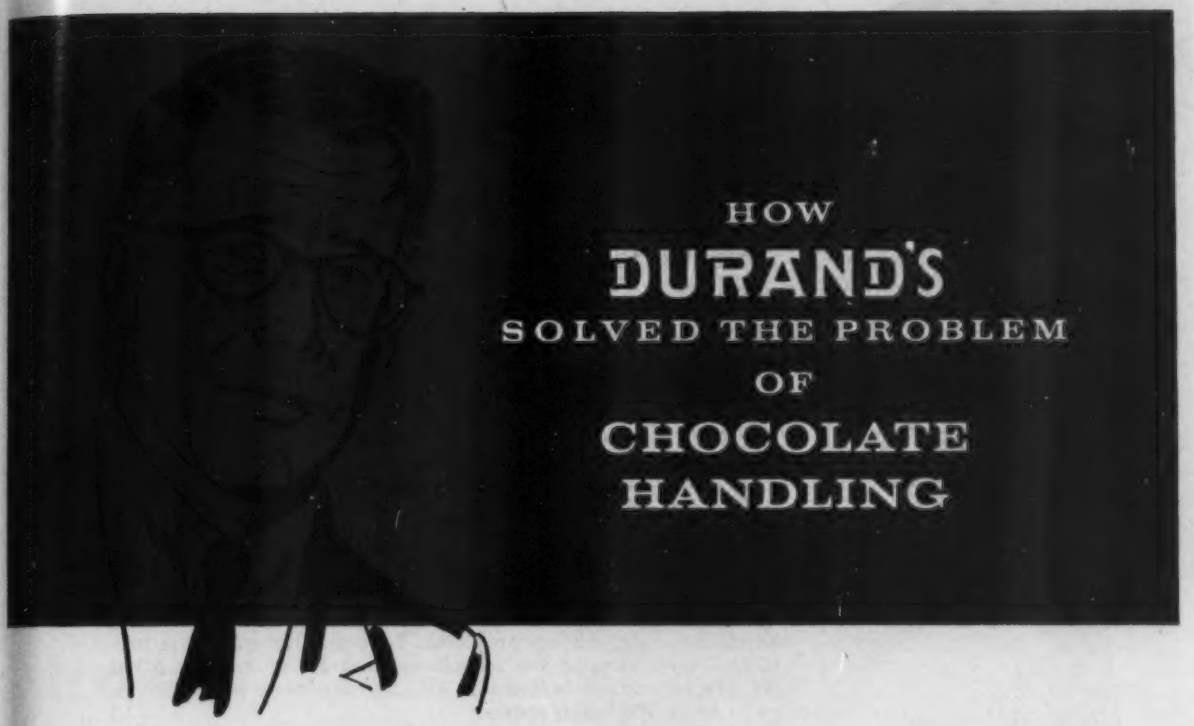

HOW DURAND'S SOLVED THE PROBLEM OF CHOCOLATE HANDLING

the problem: Lengthy start-up time . . . lack of automatic viscosity control . . . varying temperatures of delivered chocolate . . . expensive traditional batch methods . . . rising costs of operation . . . over-dependence on human element of control.

the solution: Durand Company installed a Greer Continuous Chocolate Conditioning System — BECAUSE — the Greer Conditioner continuously, automatically and uniformly melts, cools, conditions and pumps block coatings to points of usage within 10 minutes of start-up — thin-film cooling principle assures individual particle cooling, with chocolate output temperature-controlled within ½°F. — delivers conditioned coatings completely free of unstable crystals — eliminates irregular kettle batch processing — closed system is completely sanitary, readily cleaned — low operating cost means real economy.

Durand Company installed their Greer Conditioning System *over two years ago. Their chocolate conditioning problems have remained solved ever since.*

The Greer Continuous Chocolate Conditioner is available in 450 to 4,000 pounds/hour models. Also supplied without built-in melters, for liquid coatings and syrups.

If you have problems in chocolate conditioning, write or call us. Our engineers will be glad to discuss them with you.

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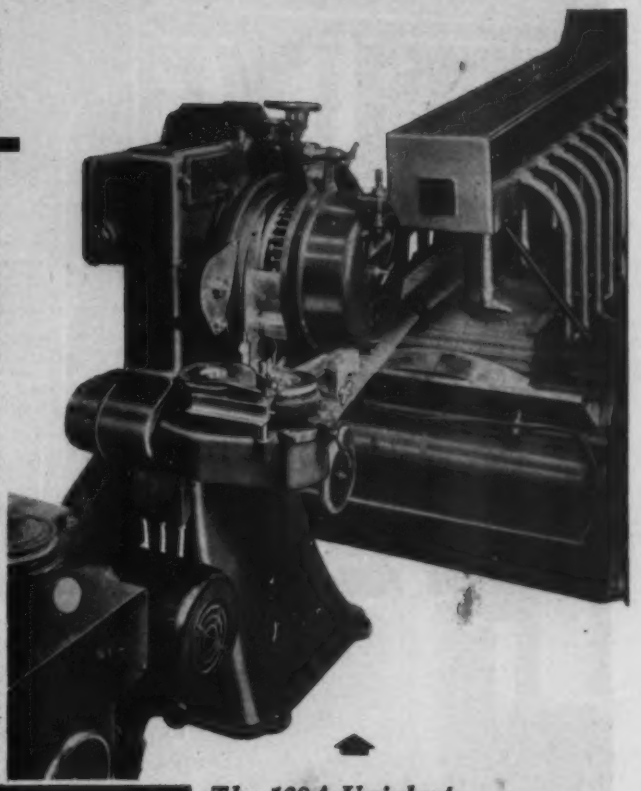
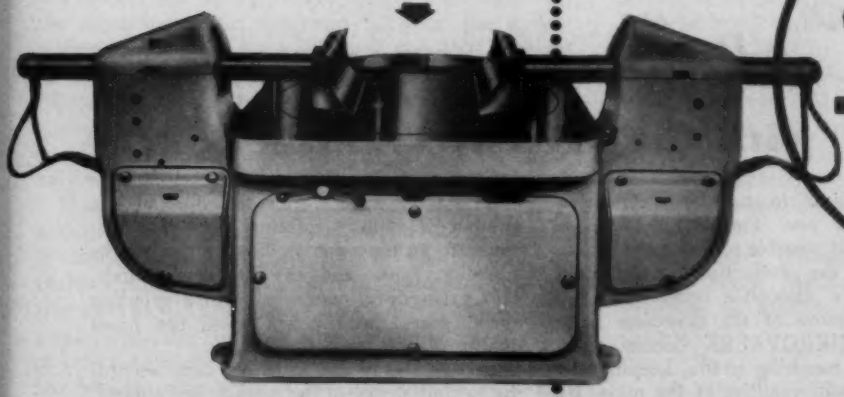
two additions to the extensive *Hansella* line



The 160A Uniplast.
Produces seamless candies, both filled or solid, at highest production rate.

The IM 30 Kneading Machine.
Kneads as thoroughly as a hand operation. Total absence of air bubbles in the batch insures perfect clearness.



See both of these new machines at the N.C.A. Exposition in Chicago— Booths 19 and 20.

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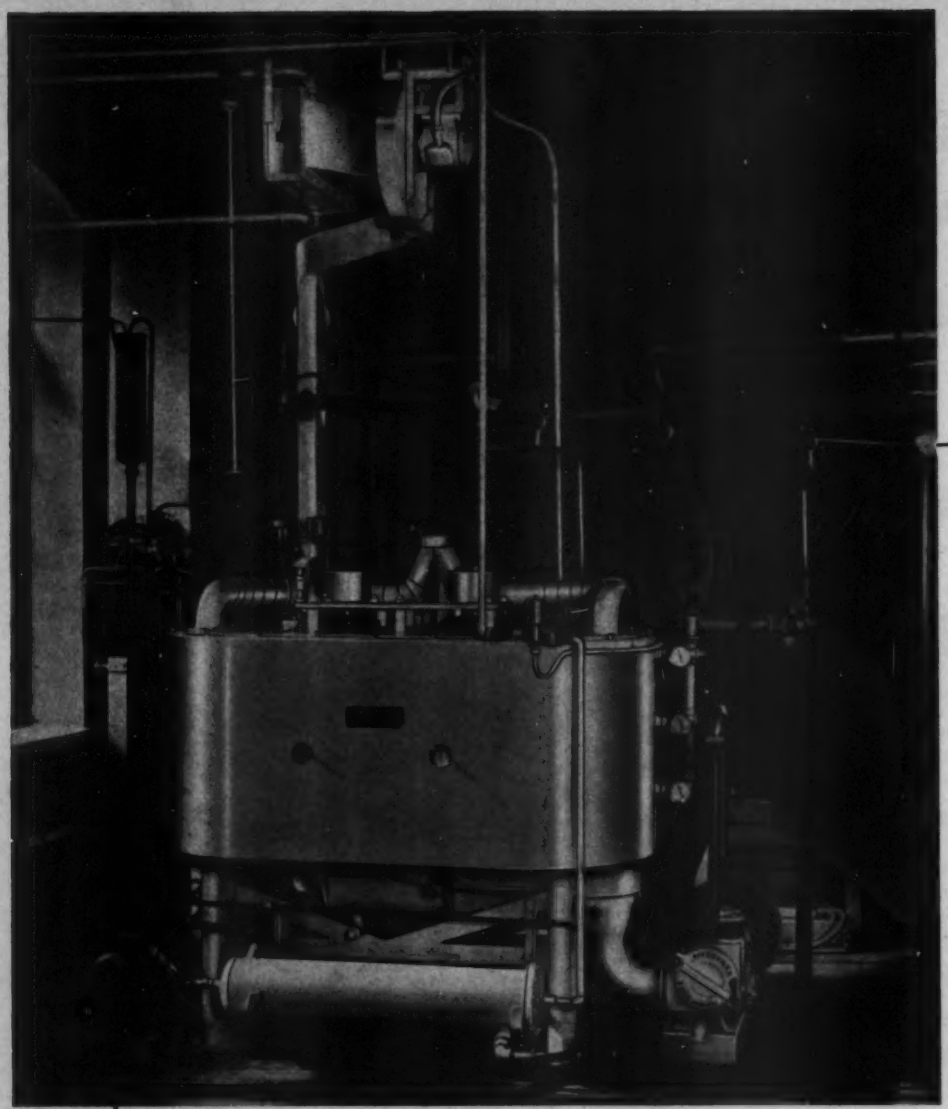

Continuous Conching

with the MIKROVAERK Conche

The "'missing link" in chocolate automation is now offered you. The MIKROVAERK Conche makes it possible to insert the conching process in the production flow of modern continuous chocolate manufacturing. One single passing of the chocolate mass through the MIKROVAERK Conche guarantees a high conching grade, keeping the valuable aromatic qualities of the mass. By the special design of the conche, the chocolate mass is spread in a thin film over a number of rapidly rotating discs and subjected to an intensive air flow extracting the aqueous vapour and unwanted compounds. This proceedure, combined with a grinding effect, gives the conched mass the finest quality, flavour and consistency.
Capacity: 100 to 250 kilos per hour according to consistency of the mass to be conched, and grade of conching desired.

MIKROVÆRK A/S

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COPENHAGEN, DENMARK

See Our Exhibit in Booth 17 at the N.C.A. Convention

A new method of . . . "moisture determination"

T. F. CONWAY, R. F. COHEE & R. J. SMITH
Corn Products Refining Company

Within the last 10 years, industry has increased the emphasis on physical methods for chemical analysis. This trend has resulted from scientific progress made since 1940 and from industry's demand for rapid, non-destructive methods for analysis. Today, as many as five types of spectroscopy may be employed by a chemist for qualitative and quantitative examination of raw materials, process streams and finished products. Each of these has certain advantages and limitations.

Radio frequency (r-f) spectroscopy is one of the most recent types to be applied in the industrial laboratory. R-F spectroscopy covers that region of the electromagnetic spectrum between the audio frequency range and the infrared; it is that portion of the spectrum assigned to radio communication. There are three well-defined branches: electron paramagnetic resonance, microwave, and nuclear magnetic resonance spectroscopy. This paper deals only with nuclear magnetic resonance.

Nuclear magnetic resonance, or NMR as it is generally abbreviated, was observed simultaneously and independently by Dr. E. M. Purcell[1] at Harvard and Dr. Felix Bloch[2] at Stanford University in 1945. These men later shared the Nobel prize in physics for their work. Initially, NMR was of interest chiefly to the physicist. However, chemists became interested in this new technique when they realized that it provides information concerning the numbers of atomic nuclei as well as their physical and chemical environment. In the fall of 1950, Dr. T. M. Shaw and his co-workers at the Western Regional Laboratory of the Department of Agriculture demonstrated that NMR techniques can be used to determine the moisture content of hygroscopic solids[3]. The method is rapid and non-destructive, and potentially attractive from the standpoint of continuous monitoring of process streams. The chief disadvantage of the method is that it is specific for hydrogen and not for water as such. However, in most materials it is easy to distinguish between the signals contributed by hydrogen present as sorbed water and hydrogen present in other more hindered forms.

In 1951 the Corn Industries Research Foundation initiated a project at Southwest Research Institute, San Antonio, Texas, in the field of NMR. This research resulted in the construction of an NMR moisture meter[4, 5] which was delivered to Corn Products Refining Company in 1955. The applicability of NMR techniques to moisture determination in various products from the corn wet-milling industry was studied using this equipment. A "control-laboratory" NMR Analyzer[6] (Figure 1) manufactured by the Schlumberger Well Surveying Corporation, Ridgefield, Connecticut, was obtained in 1956. This instrument has been found satisfactory for the determination of moisture in many of our products.

This report describes a preliminary application of the NMR Analyzer to the determination of moisture in materials from the confectionery industry.

Theory

The measurement of sorbed water by NMR is based upon the absorption of radio frequency en-

EDITOR'S NOTE: This paper, was read at the Production Conference of the Pennsylvania Manufacturing Confectioners Association, April 25, 1957

Your show-time is worth money — spend it wisely — see the

FASTEST wrapping machines in the world!

SUPERMATIC G. D.

2160

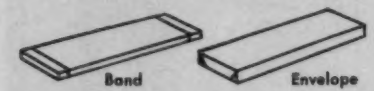
FOR WRAPPING BAR PRODUCTS

LENGTH	WIDTH	THICKNESS
from 2-3/8"	3/4"	3/16"
to 6-1/8"	3/8"	3/8"
or 6-1/8"	2-9/16"	3/8"

Does inner and outer wraps; of any type material from reels; outer wrap either envelope or band.

Rated Speed: 160/minute

Normal Speed: 130-140/minute

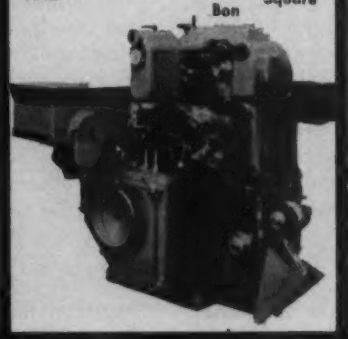


Bar Wraps

2350 Super

FOR AUTOMATIC TWIST WRAPPING

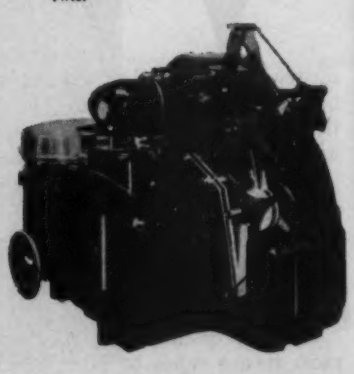
Performs single end twist (Panier), side bow twist (Sachet), Double end twist, Vienna Bon Bon fold or pointed wrap and heat seal, *all* on one machine. Speeds of 210-220 wraps per minute are normal, although rated speeds are 350 under maximal conditions.



2500

FOR AUTOMATIC HIGH SPEED TWIST WRAPPING

Ultra-rapid wraps on hard candies. Double end twist wraps up to 500/minute; bunch wraps of 400/minute under maximal conditions. Completely automatic, handles all types of wrap materials from reels.



FAST AS YOU WANT IT

Each Supermatic G.D. machine is designed for the wrapping of specific products. Guaranteed, normal speeds are faster than any other machines on the market, however, with many products, normal speeds can be exceeded considerably. There are no machines in the world that will match this performance.

PERFECT WRAP EVERY TIME

No variation in wraps; every piece is as specified. The Supermatic G.D. produces a perfect wrap every time, automatically. There are no machines in the world that will match this performance.

VERSATILITY

For example, the new 2350 Super can switch from single to double twist or sachet wraps in a few minutes. This interchangeable feature also applies to other Supermatic G.D. machines. There are no machines in the world that will match this performance.

BETTER CONSTRUCTION

Designed and engineered to give trouble-free performance for years. Features such as automatic lubrication, patented feeding mechanisms that save wrapping material; dust and crumbs automatically eliminated, are typical of construction details of Supermatic G.D. machines. There are no machines in the world that will match this performance.

SERVICE

Factory trained servicemen are available at any time for service problems. A complete stock of replacement and accessory parts are always on hand for immediate delivery.

COSTS NO MORE

Prices are now lower than they have ever been. It costs you no more for a Supermatic G.D. and, remember . . . there are no machines in the world that will match Supermatic G.D. performance. You are invited to visit our showrooms and see your products packaged by our machines. Or, send a sample of your product for a test package with no obligation.

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ergy by the nucleus of the hydrogen atom. Hydrogen nuclei in water can be considered similar to rapidly spinning tops with permanent bar magnets embedded along their axes of rotation. In the absence of an external magnetic field, these spinning nuclei are oriented in a random manner. However, when placed in a strong constant magnetic field, these nuclei tend to align or orient themselves in either of two positions. The first position, similar to that of a bar magnet lined up with the external magnetic field, is called the parallel. The second, comparable to that of the bar magnet lined up opposed to the magnetic field, is called the antiparallel. However, instead of assuming fixed alignments with respect to the external magnetic field, these nuclei precess around the permanent magnetic field much like the nucleus shown in Figure 2. The manner in which these nuclei precess is similar to the way the earth precesses around its axis of rotation or the way a spinning top will tend to precess around the direction of the earth's gravitational force. The frequency of precession is dependent on the magnetic and inertial properties of the nucleus and proportional to the strength of the constant magnetic field.

If the precessing nuclei are exposed to an additional radio frequency (r-f) magnetic field introduced at a right angle to the constant magnetic field, and if the radio frequency is the same as the precession frequency, a portion of the nuclei will reorient from the parallel to the antiparallel position. This forced reorientation absorbs energy from the r-f field. The amount of energy absorbed is proportional to the number of hydrogen nuclei and is thus a measure of sorbed water. The absorption of r-f energy occurs over a narrow band of frequencies centered around the resonance frequency. For the Schlumberger equipment, the hydrogen resonance frequency at a magnetic field strength of 1750 gauss, is 7.4 megacycles.

The resonance condition can be obtained by holding the magnetic field fixed and varying the frequency of the r-f source, or by holding the r-f frequency constant and changing the strength of the magnetic field. The latter technique is employed with the Schlumberger NMR Analyzer.

Since the NMR signals differ, the signal from water sorbed by a sample of starch can be distinguished from that of chemically combined water or carbohydrate hydrogen. Sharp, intense signals are obtained from sorbed water while signals from chemically combined water and carbohydrate hydrogen are weak and very broad. This results from the fact that the precession frequencies of individual hydrogen nuclei are functions of the sums of *all* magnetic fields to which they are exposed. Hydrogen nuclei fixed in carbohydrate or chemically combined water are subjected to a greater variety of nuclear and atomic magnetic fields than hydrogen present in sorbed water. This variation in magnetic environment limits the hydrogen resonance to only a few nuclei at a given time, and the resulting absorption signal is weak and very broad.

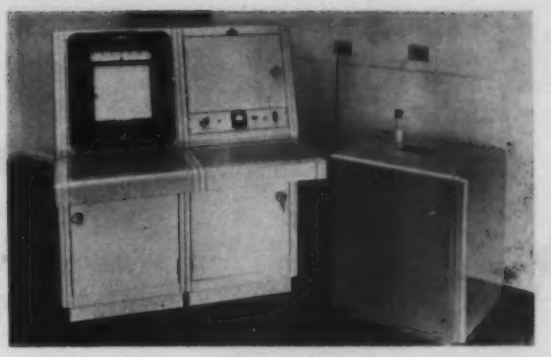

Figure 1

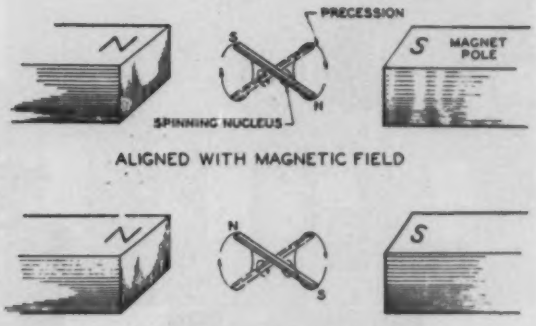

Figure 2

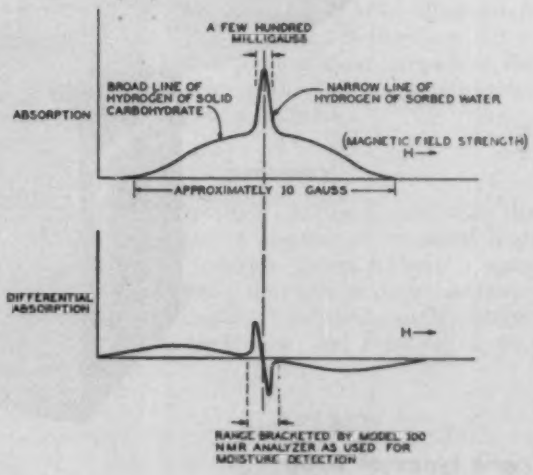

Figure 3

Figure 3a shows the relationship between r-f energy absorption and magnetic field strength for a sample of corn starch. It is apparent that absorption signals from sorbed water can be distinguished from those from the solid carbohydrate. For quantitative analytical purposes, it is more convenient to plot the first derivative of this curve, as shown in Figure 3b. Advantages of this type of presentation are increased signal strength and improved signal-to-noise ratio.

Equipment and Method of Measurement

The Schlumberger Model 100 NMR Analyzer shown in Figure 1 is a prototype designed for quantitative measurement of moisture in industrial or laboratory samples. The instrument consists of a console and a magnet unit. The console contains the operation control panels, recorder, six removable component chassis and four power supplies. The magnet unit houses a 1750 gauss permanent magnet with 10-inch diameter pole faces and a 2-inch gap. In addition, a r-f unit is located between the pole faces of the magnet. This unit contains a r-f coil, amplifier and other associated circuitry. Samples are introduced into the Model 100 analyzer in glass sample tubes which are inserted into the sample cavity inside the r-f coil.

One of the advantages of the Schlumberger equipment is ease of operation. The equipment was designed with a minimum number of operating controls and can be used by personnel with little technical training. For most routine measurements it is not necessary to touch any controls except the "Start" button. In some instances, however, it may be necessary to adjust other instrument parameters by means of controls located behind the console door. The position of each control can be specified for a particular material or moisture range and changes can be made routinely without any difficulty.

The method of measurement is comparatively simple. A weighed sample cell is filled to a predetermined depth and the sample weight determined. (Alternately, a constant weight of sample could be introduced into the sample cell.) The cell is sealed and placed in the sample cavity. The derivative curve is obtained by altering the strength of the magnetic field over a narrow range. A typical curve for starch at 15 per cent moisture is shown in Figure 4.

Only about a half-minute is required for peak-to-peak amplitude measurement.

The relationship between NMR signal amplitude and moisture content for a specific material can be established by measuring the peak-to-peak amplitude for a series of samples at various moisture levels. The peak-to-peak amplitudes, adjusted to a common weight basis, can be plotted as a function of moisture to furnish a standard calibration curve. For calibrating purposes, moistures are determined by vacuum-oven drying or by other standard procedures. This curve can be used for determination of moisture for unknown samples of the same material providing they are measured under equivalent instrument conditions.

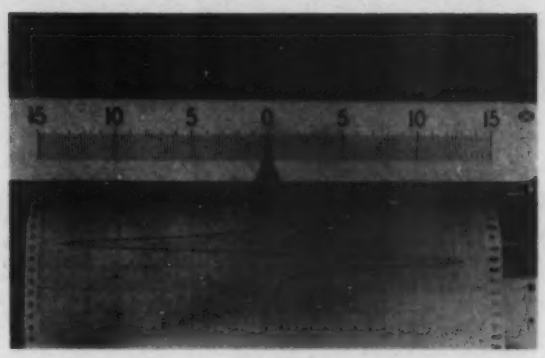

Figure 4

Figure 5

Experimental

This preliminary study was concerned with the NMR determination of moisture in materials from the confectionery industry. Figure 5 shows a series of sample cells filled with types of materials examined. From left to right are soft jellies at depositing, molding starch, both new and recycled, a juju

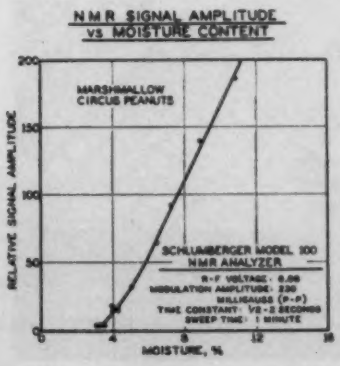

Figure 6

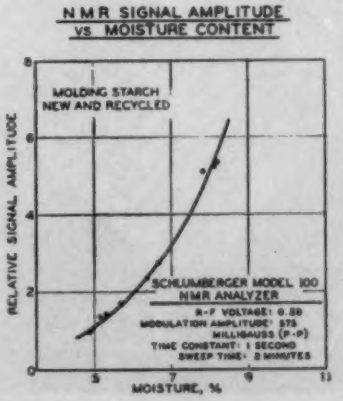

Figure 7

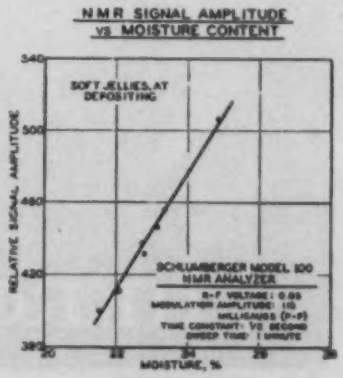

Figure 8

type of candy and soft jellies at packaging, marshmallow, fondant, grained mints, corn syrup, jelly bean centers before panning, and chicle. Sizes of sample cells and quantities of materials were dictated by the moisture contents of the samples examined. Some of the results are shown graphically in Figures 6, 7 and 8 and all are summarized in Table I. Moisture contents for most samples

TABLE I

Sample Type	No. of Samples	Moisture Range %	Approximate Sample Weight (g)	Sample Cell Size	Deviations from Correlation % Moisture	
					Average	Maximum
Molding Starch, new and recycled	9	4.9-8.2	35	Large	0.07	0.15
Corn Syrup	10	15.1-24.5	15	Large	0.17	0.7
Soft Jellies, at depositing	7	21.5-24.9	8	Small	0.09	0.20
Jelly Bean Centers, at depositing	7	22.2-25.5	8	Small	0.17	0.25
Jelly Bean Centers, before panning	7	11.7-14.5	40	Large	0.04	0.10
Soft Jellies, at packaging	5	15.2-16.4	18	Large	0.10	0.20
Juju Type Candy, at packaging	5	14.3-16.1	35	Large	0.24	0.40
Marshmallow, circus peanut	13	3.1-10.8	25	Large	0.10	0.30
Fondant, candy corn	7	4.0-7.5	35	Large	0.12	0.25
Grained Mints	5	0.0-1.9	30	Large	0.10	0.20
Chicle	18	0.1-21.4	40	Large	0.18	0.80

were determined by Procedure 29.8 for Sugars and Sugar Products, Official Methods of Analysis, Association of Official Agricultural Chemists, 8th Edition. It involves dispersing a portion of the sample on quartz sand and drying in a vacuum oven at 70°C for 18 hours. Alternate methods were used in some instances. Moisture content of chicle was determined by the American Chicle Company using azeotropic distillation with toluene. Molding starch moisture was determined by drying 4 hours in a vacuum oven at 120°C and corn syrup moisture was estimated from the refractive index. All signal amplitude measurements are corrected to a common weight basis. Table I indicates the types of samples, moisture ranges, approximate sample weights and cell sizes. In addition, the average and maximum moisture deviations from the NMR signal amplitude-moisture correlations are listed.

Good-to-excellent relationships between NMR relative signal amplitude and moisture content were observed for all samples examined. Direct plant sampling failed to provide the moisture spread desired. In such cases higher moisture products were air-dried as needed. This was true of jelly beans before panning, soft jellies and juju type candy at packaging, fondant and grained mints. A wide moisture range was obtained for grained marshmallow by taking samples between 8 and 36 hours after casting; several samples were taken also at packaging.

Summary

These data indicate that the nuclear magnetic resonance (NMR) technique can be used to determine moisture in some materials and products from the confectionery industry. Definite advantages offered for routine measurement are:

1. It is rapid. The time required for these determinations ranged from 3 to 5 minutes, and projected modification of the present equipment to a "direct-reading" system will reduce this time substantially.
2. The method is non-destructive. Subsequent chemical analysis can be conducted on the same sample.
3. A minimum of sample preparation is required. Almost all samples were examined on an "as is" basis. Within reasonable limits, signal amplitudes are independent of particle size and distribution when adjusted to a common weight basis.
4. It can be applied to a wide variety of sample types. In this study it has been applied successfully to samples for which four separate methods, vacuum oven drying, azeotropic distillation, refractive index and conductivity, are applied routinely.

The NMR technique has limitations. It must be remembered that it is specific not for water but for hydrogen. Use of the method requires an un-

derstanding of sample composition, the way moisture is held in the sample and the nature of possible interfering materials.

Acknowledgement

We wish to express our thanks to the following manufacturers for samples and helpful and friendly advice: American Chicle Company, E. J. Brach and Sons, Paul F. Beich Company, and Farley Manufacturing Company. Our appreciation is expressed also to Mr. Roman Barabolak for the vacuum oven moisture determinations.

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5. O'Meara, J. P., and Rollwitz, W. L., "Determination of Moisture by Nuclear Magnetic Resonance II. Experimental Results on Products for the Corn Wet-Milling Industry", Paper presented at American Chemical Society, Chicago, Illinois, September 6-11, 1953, 13D.
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Aeration in candy technology

JUSTIN ALIKONIS
Paul F. Beich Company

Aerated food products are increasing in demand. Aerated products, such as, ice cream, toppings, whipped butter, aerated chocolate products, confections, etc., are taking more and more space on the consumer's shelves. This afternoon we are to limit our discussion to aeration in our own specialized candy field.

In order to assist in the production and the maintenance of an even texture, to prevent shrinkage, and assist in the incorporation of air in confections, we must approach aeration in candy technology from three different important factors: (1) The foaming agent and stabilizers; (2) The medium in which these foaming agents and stabilizers are suspended or dissolved; (3) The beating equipment used.

To produce aerated confections we have at our disposal many types of improved whipping agents and stabilizers which were not available years ago. A year ago it was my pleasure to deliver a paper at the American Chemical Society meeting in Atlantic City, New Jersey, on "The Practical Aspects of Foam Stabilization", (in which the more important food products that are involved in foam stabilization were discussed) and in the major portion of this paper, emphasis was on confections. We, as candy technologists, know that confections are given special textures by the addition of colloidal materials, a majority of which are proteins, such as, egg whites, gelatin, vegetable whipping agents, gums, pectins, and starches. If we add air to these colloidal materials we obtain an entirely different texture, and if we stabilize this foam, a new texture is many times possible.

Our main interest in confections is in those that are divided into two classes, (first), those made from unsaturated solutions, such as, frappes, marshmallow, nougats, etc. These types of confections are formed with sugar, corn syrup, sorbitol, and other sweetening agents in which the percentage rarely is in excess of 55 to 45 percent in respect to sugar. To this is added the aerating agent and water to form a confection that varies from a very soft to a chewy texture. The second class is supersaturated solutions which form aerated grained confections, such as, creams, fondants, nougats, fudges, grained marshmallow, etc. Fondants and creams are prepared by concentrating a sucrose, corn syrup, and water solution to around 85 percent solids, using a ratio of sucrose to corn syrup so that precipitation will occur when the supersaturated solution is seeded or crystallization introduced by mechanical means. Some air is incorporated by the mechanical action of the equipment used in making the fondant, whereas in creams either egg or soya albumen in the form of mazetta is used to impart some air. The choice of the whipping agent will depend on the type of confection, texture, and the shelf life expected. Gelatins of excessive high bloom are sometimes helped by the addition of very low bloom gelatins. Although more mileage or whipping power is obtained by hydrating gelatins in very cold water, many confectioners actually hydrate gelatin in very hot water in order to obtain a product that will produce a soft texture over a long period of time. Similarly, egg albumens are soaked in water and many times are beaten or whipped without syrup, and in some cases a cooked mass of sugar and syrups are added to the egg albumens and a very stiff mazetta type product is obtained to produce aerated confections. Whether gelatins, egg whites, soya albumen, or other foam producing agents are used, many times stabilizers, such as, gum arabic, Irish moss extractives, pectins, and starch are used to either stabilize the foam or to produce a different texture.

The type of syrups and sugars has come to have a great deal of importance. A whipped product, made with regular corn syrup and water, is different from one whipped with enzyme reacted syrups and water or one whipped with sorbitol and water. The dextrose equivalent of the syrup

EDITOR'S NOTE: This paper was read at the Production Conference of the Pennsylvania Manufacturing Confectioners Association, April 25, 1957

used affects the shipping properties of the finished product. The temperature and moisture content also have effect on the degree of aeration.

Now that we have the whipping agent, plus or minus stabilizer, and the syrup, the next item to consider is the mechanical means of aeration. Beaters are of two types—wire beaters, which are of the vertical type and travel at high speed in order to incorporate the air. These wires are very difficult to clean and have this objection when considered from a sanitary point of view. Horizontal beaters, or the marshmallow type, which use flat bars with some perforations in which larger globules of air are pulled in as the blades revolve on a shaft, and as the time of beating progresses these large globules of air are broken down into smaller sizes. If you are using this type of beater, be sure you have smooth surfaces that are free of pits and holes. Make sure that any slots are sanitary in that you do not have any dead ends that cannot be cleaned. This type of equipment is used by many smaller manufacturers and is very effective and produces a great deal of aerated confections but is very slow.

In the past three years the Production Conference has heard from two manufacturers about continuous marshmallow machines, namely, the Oakes and the Votator. Both of these continuous marshmallow machines are currently being used in the confectionery industry.

Last but not least at this 11th Conference, we would like to discuss with you a new type of continuous machine for producing aerated products, not only marshmallow, but also for making frappes, mazettas and nougats. This patented machine is known in the food industry as the Whizolator.* This machine is noted for simplicity of operation and the very uniform product that it produces. The principle of this process is a diffusion chamber, containing either a rigid ceramic element or ceramic spheres, which provides a tortuous path for the confectionery stock solution and air to pass through, and in so doing, to regulate the bubble structure of the foam or aerated confection being produced. There are no moving parts other than the pump that brings the confectionery stock solution and air to pass through, and in so doing, to regulate the bubble structure of the foam or confectionery stock through the jet and target aerated confection being produced. There are no moving parts other than the pump that brings the premixing chambers and the force of the compressed air carries the liquid through the diffusion chamber.

The secret of the simplicity is the passing of a uniform temperature premix stock at a fixed quantity determined by a positive displacement pump so that the only variable is the air pressure. The air is controlled by an adjustable regulating valve. Therefore, by keeping all other factors con-

*Whizolator U. S. Patents 2,424,950 and 2,536,340. Manufactured by Paul F. Becih Co., Bloomington, Illinois.

stant with the exception of the air regulating valve, this air regulation serves as the controlling factor for the specific gravity of the aerated confection to be produced.

If various colored marshmallows are necessary, it is possible to either inject the color and/or flavor just before it enters the target mixing chamber or the marshmallow can be colored by a mixing device after the marshmallow leaves the unit.

For those who are interested in supplying marshmallow under pressure to a pressure type depositor pump or for the production of a continuous amount of marshmallow with no air loss, then a pressure receiving tank equipped with regulating valves has been developed in the last six months which extends the usefulness of this unit to meet the demands of automation in the confectionery industry.

This type of continuous aerator can be taken apart for cleaning, but in operation it is equipped with proper backwashing valves to thoroughly rinse the unit with cold water, hot water, or steam. After use it is recommended that in-place cleaning be executed as is common in food plants. After cleaning with cold or hot water, steam, under pressure, is passed through the entire unit. For weekends or for long rest periods we recommend rinsing the unit with a diluted Hyamine sanitizing solution, a quaternary ammonium compound, which is used in food plants as it is non-corrosive, tasteless, odorless, and harmless. This solution is rinsed out of the unit with warm water and again prior to use. Basteriological tests have proven beyond a doubt that the steam in-place cleaning completely sterilizes the aerating unit.

One of the untapped possibilities of this unique aerating unit which should be given further study by candy technologists in the super-light frappe that is possible to produce with this unit, which to our knowledge is not possible on any other type of equipment. By mixing a mixture of vegetable whipping proteins with water and sorbitol, it is possible to produce a frappe that weighs less than one-third pound per gallon at a rate exceeding 200 gallons of frappe per minute. Nougats can be made with this frappe with unprecedented lightness and specific gravity and at a tremendous saving of whipping agent.

As in all types of continuous equipment, each manufacturer stresses certain important advantages, and all we ask is that if you are making aerated confections or considering them in the future that you contact us for an evaluation of whether our unit can do a satisfactory job for you.

Aeration is not the only function of this unit. By simply introducing stream into the air supply, it can then be used as a precooker or cooker, and it is possible to cook and aerate at the same time. Although this unit can perform with excellent results on many food items, there is a limit as to what it can and cannot do.

Helpful Books for Candy Plant Executives

Choice Confections

by Walter Richmond

This new book contains 365 formulas for making two batch sizes, one for hand work and one for machine work. There are instructions for each batch, with suggestions as to the methods of coloring and flavoring for variety. A glossary is included, both of candy and chemical terms. All of the formulas are cross indexed, and a complete chapter is presented on chocolate.

How to Salvage Scrap Candy

by Wesley H. Childs

This booklet is a complete revision of the author's work "Modern Methods of Candy Scrap Recovery" published in 1943. A considerable amount of information has been collected since that time on methods and techniques of salvaging scrap candy. This booklet covers all types of candy, and gives many practical and economical ways of converting scrap candy into a useful form for re-use.

A Textbook on Candy Making

by Alfred E. Leighton

Here is a textbook where the reader can learn the basic fundamentals of candy making, the "how" and "why" of the various operations in non-technical terms. Particular attention is given to the function of raw materials, and why each is included in a formula.

The Candy Buyers' Directory
The Directory of Candy Brokers

1957 Edition

The Candy Buyers' Directory is an alphabetical and classified directory of wholesale candy manufacturers giving information on what type of candy is made by each firm, and in some cases the type of packaging used. The Directory of Candy Brokers is a geographical listing of over 600 candy brokers giving the accounts that they handle, the territory covered and the number of salesmen. This directory should be on the desk of every salesmanager as a reference guide. The information contained in these directories is not available in any other published material.

☐ How to Salvage Scrap Candy
$2.00

☐ Choice Confections
$10.00

☐ A Textbook on Candy Making
$6.00

☐ The Candy Buyers' Directory and The Directory of Candy Brokers
$4.50

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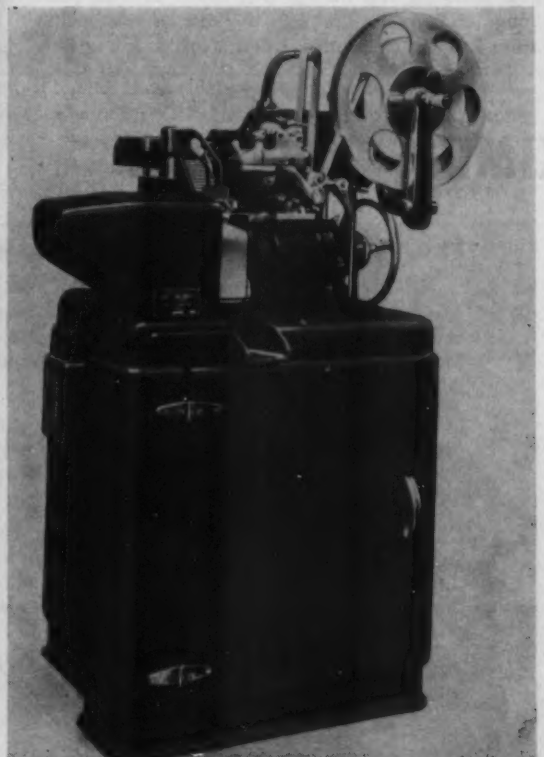
New Products

A new starch casting machine has been developed that is claimed to include improvements over existing machines. The depositor and hopper swing with the boards during deposits to reduce mold breakdowns and tailings. The tray movement from printer to depositor is claimed to be fast but with gradual acceleration to protect molds. Electric vibration is used on the printer head, instead of the usual pounding bar, resulting in less damage to trays and parts.

The maximum depth of the trays is three inches, and the machine works very well at this maximum depth. Starch is put into trays with a "spray" filling technique, giving excellent areation of starch. It is claimed that automatic compensation is made for trays of varying sizes, so that they can be run in together on a line without any adjustment in the skip motion.

For further information write: Mr. H. Faerber, N.I.D. Products Ltd., Sydney, N.S.W., Australia.



A Cigarette Wrapping Machine has been developed that handles chocolate, licorice, or candy equally well. Speeds are from 100 to 140 per minute.

For further information write: Jabez Burns & Sons, Inc., 600 West 43 Street, New York 36, New York.

New Products

A new "Solubilizing" machine has been developed to make powdered foods more easily wetable. It is claimed that this machine makes cocoa powder instantly wetable, so that it will mix readily with water or milk without clumping or floating.

For further information write: Blaw-Knox Company, 300 Sixth Avenue, Pittsburgh 19, Pennsylvania.

An Automatic Weighing Unit has been developed that can be washed. The weighing mechanism is totally enclosed in a cast-aluminum housing. All contact parts are of stainless steel. Weights range from 1 oz. to 10 pounds, and speed up to 30 weighings per minute.

For further information write: Glengarry Processes, Inc., Bay Shore, New York

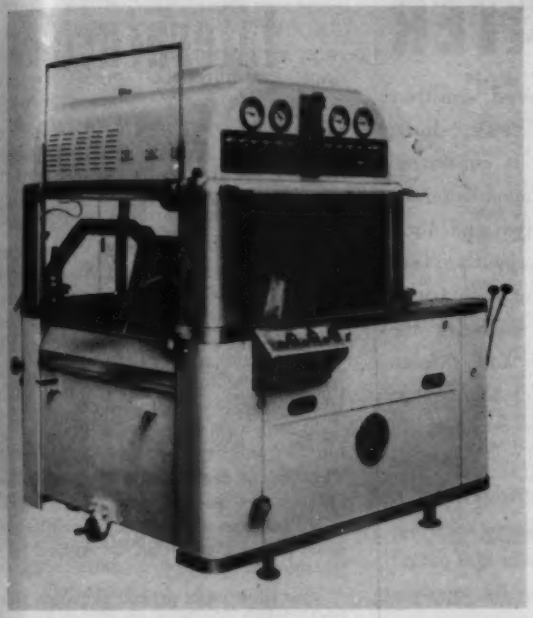
A new coating for box boards hae been developed that makes the board water-resistant and greaseproof. The resin-based product is applied by conventional coating machinery and heat-fused on the surface. The surface may then be heat sealed or glued. This product has made chip and other types of board, suitable for hydroscopic and high moisture products.

For further information write: Paisley Products, Inc., 1770 South Canalport Street, Chicago, Illinois.

A plastic reinforced tray has been developed primarily for the confectionery industry. It has been used for drying, handling and transporting candy centers before dipping. Dimensions are 30⅜ X 15⅞ X 2¼ inches. The trays lock on each other when stacked. Being fibre glass

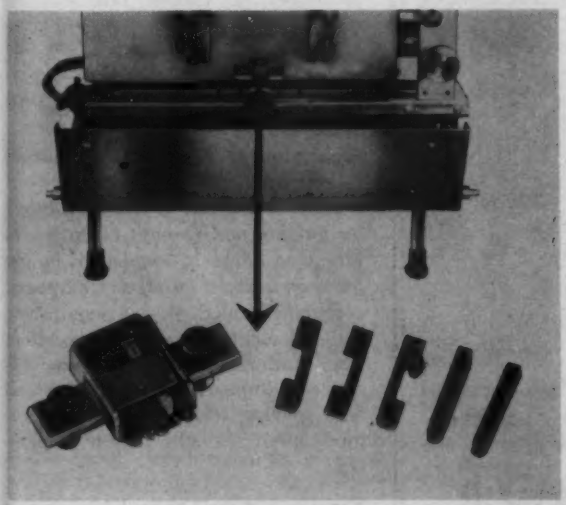
reinforced resins, they cannot bend, warp, or dent, and can be steam cleaned. They are one piece without cracks or fasteners.

For further information write: Molded Fibre Glass Tray Company, Linesville, Pennsylvania.



A new line of chocolate coating machines have been developed featuring an infinitely variable speed of the band up to 24 feed per minute. With proper attachments, these coaters are suited for full, bottom, half or shoulder coating. Newly designed bottomers, depressing rolls and turnover devices are also available.

For further information write: Jabez Burns & Sons, Inc., 600 West 43 Street, New York 36, New York.



A new code dater has been developed for a jaw sealer that can be changed while the jaw is hot. The change simply involves changing type cages, which can be done easily from the front of the machine.

For further information write: Amsco Packaging Machinery, Inc., 31-31 48 Avenue, Long Island City, N. Y.

A continuous wrapping machine for polyethylene has been developed that operates on the continuous "float" principle. The product is first fed into a continuously formed tube. The lengthwise seal is then made, and the ends formed, sealed and cut to length. Automatic feeds and deliveries are available for many products.

For further information write: Hudson Sharp Machinery Company, Green Bay, Wisconsin.

A complete packaging machine has been developed that forms a carton or tray, from a blank, weighs out and fills the product, and over wraps the filled tray. All operations are controlled from a central station, and are synchronized, requiring just one operator.

For further information write: Hayssen Manufacturing Company, Sheboygan, Wisconsin.

Technical Literature

The Manufacture of Assorted Barley Sugar Cuts and Fruit Cuts

Simon I. Leon, Food, Vol. 26, *No.* 305 (1957)

Lemon, lime, cinnamon, clove, wintergreen, sassafras, and peppermint barley sugar cuts formulas are given. Lemon, orange, lime, raspberry, and licorice fruit cuts formulas are given. The former are cooked to 338 F. and the latter are cooked at slightly lower temperatures, both being open fire cooks.

The Use of Differential Curves in the Dilatometry of Fats

H. Jasperson & A. A. McKerrigan, Jour. Science of Food & Agriculture, Vol. 8, *No.* 1 (1957)

This nine page article presents dilatation data on hydrogenated peanut oil, cacao butter, palm kernel, palm, lard, and tallow. Illustrations on the effect of one fat upon dilatometric character of another are given. Differential dilatometric curves, in which the rate of expansion is plotted against temperature, provide a ready means of distinguishing between the melding properties of various fats and fat blends. Characteristic curves are given of single fats, hydrogenated fats, and blended fats. These are discussed in relation to their predominant glycerides.

Embezzlement Controls for Business Enterprises

Lester A. Pratt, C.P.A., published by Fidelity and Deposit Company of Maryland. Free to employers by request on business letterhead. 32 *pages.*

Practical methods of combating embezzlements of money, merchandise, and other materials are described. Emphasis is primarily based on removing temptation and opportunity from normally honest employees.

Experiments on Cocoa Fermentation in West Africa

G. R. Howat, B. D. Powell, & G. A. R. Wood, Jour. Science of Food & Agriculture, Vol. 8, *No.* 2 (1957)

A series of experiments on cocoa fermentation using heaps, boxes and steel vessels has been conducted in W. Africa. Different methods of fer-

mentation were investigated. Scientific data relating to temperature, pH, and moisture changes were collected. A vessel designed to ferment the beans from 150 to 500 pods was tested and found to be satisfactory. Attention was given to answering questions which planters ask about fermentation, i.e., effect of the degree of ripeness of pods, of length of time elapsing between harvesting and the beginning of fermentation, and whether the transportation of wet beans is detrimental.

Vapor-Phase Chromatography

....., *Progress Thru Research, Vol.* 11, *No.* 1 (1957)

This four page, illustrated article describes the apparatus used in General Mills Research Laboratories in their basic studies of flavors. Two chromatographs are shown, one of artificial and one of natural vanilla extract: these are strikingly different. Vapor-phase chromatography may not solve flavor problems but it is a valuable tool for flavor evaluations.

Rapid Spectrophotometric Technique for Evaluation of Vanilla Extracts

R. Pomerantz, S. A. Goldblith & B. E. Proctor — Jour. of Agriculture and Food Chemistry, Vol. 5, *No.* 4 (1957)

The rapid scanning spectrophotometer can be used to differentiate between pure and artificial vanillas of the 60% vanilla solutions in water. Graphs are presented.

Essential Oils and Related Products

Ernest Guenther, K. Kulka & J. A. Rogers, Analytical Chemistry, Vol. 29, *No.* 4 *Part* 2 (1957)

This is a review of analytical procedures covering essential oils for the period of October 1954 to September 1956. An extensive bibliography is included.

Food

Harry W. von Loesecke, Analytical Chemistry, Vol. 29, *No.* 4 *Part* 2 (1957)

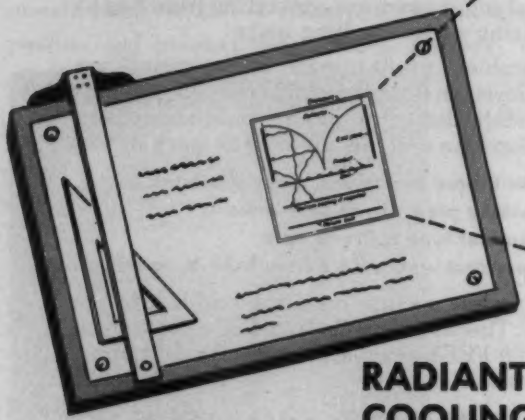
This two-year review covers analytical determinations of moisture, proteins and amino acids, inorganic ions, fats and oils, enzymes, carbohydrates, vitamins, color and taste, insecticide residues and contamination and spoilage of foods. Article includes an extensive bibliography.

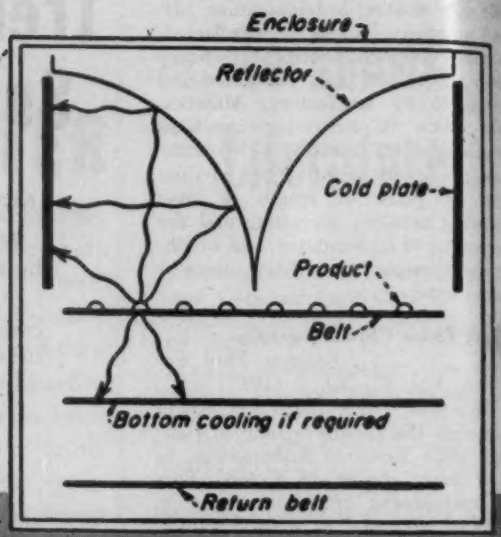
A Practical Look at Automation for the Food Plant

Karl W. Moseley, Food Technology, Vol. 11, *No.* 2 (1957)

This general article presents concepts from an engineer on the development of effectively engineered processing.

There is something NEW in Candy Cooling





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The MANUFACTURING CONFECTIONER'S

Candy Clinic

The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Some samples represent a bona-fide purchase in the retail market. Other samples have been submitted by manufacturers desiring this impartial criticism of their candies, thus availing themselves of this valuable service to our subscribers. Any one of these samples may be yours. This series of frank criticisms on well-known branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of The MANUFACTURING CONFECTIONER.

Easter Candies & Fancy Chocolates

Code 5H7
Butter Egg Cream Bar
1⅞ ozs.—10¢
(Purchased in a department store, Los Angeles, Calif.)

Appearance of Egg: Good
Wrapper: Foil wrapper printed in gold, blue, pink and white.
Egg:
Coating, Dark: Good
Center, Cream:
Color: Fair
Texture: Tough
Taste: Fair
Remarks: Suggest center be checked as it isn't up to standard. Cream had a dirty color, was tough and lacked flavor. This is not up to the standard of some other 10¢ eggs we have examined.

Code 5K7
Chocolate Mints
8 ozs.—95¢
(Purchased in a department store, Los Angeles, Calif.)

Appearance of Package: Good
Box: Oblong shape, one layer type. Buff embossed paper top. Name embossed in gold. Cellulose wrapper.
Appearance of Box on Opening: Good
Number of Pieces: 33
Coating, Light:
Color: Good
Gloss: Fair
Strings: None
Taste: Good
Center: Center is a light colored chocolate paste
Color: Good
Texture: Good
Flavor: Peppermint; good
Remarks: A good eating piece, one of the best we have examined. Slightly high priced at 95¢ for 8 ozs.

Code 5J7
Thin Mints
11 ozs.—$1.25
(Purchased in a department store, Los Angeles, Calif.)

Appearance of Package: Good
Box: Long oblong, white glazed top printed in green and white. Stripes top and side. Name in green. Cellulose wrapper.
Appearance of Box on Opening: Bad. see remarks. Box had green foil liner.
Coating, Dark:
Color: Good
Gloss: None
Strings: None
Flavor: Good
Center: See remarks. Cream had come through the coating and all the mints were stuck together.
Remarks: Suggest formula of fondant be checked as it was "off color" and was almost a syrup. Fondant was "over doctored" and cooked too low. The only way you could eat the mints would be with a spoon. We have examined cream centers that looked like these mints and on examination found considerable Citric Acid in the fondant. This is not the reason in this case.

Code 5G7
Assorted Chocolates
1 lb.—$1.35
(Purchased in a department store, Los Angeles, Calif.)

Appearance of Package: Good
Box: Oblong shape, one layer type. White glazed paper top, name printed in brown. Printed bow in brown on left side. Cellulose wrapper.
Appearance of Box on Opening: Fair. See remarks.
Number of Pieces: 29
Foiled: 2
Almond Top: 1
Sprill Top: 1
Coating, Light:
Color: Good
Gloss: Good
Strings: Good
Taste: Good
Centers:
Buttercream: Good flavor, cream tough and dry
Pink Cream: Could not identify flavor
Orange Cream: Good
Chocolate Cream: Good

Candy Clinic Schedule For the Year

JANUARY—Holiday Packages; Hard Candies
FEBRUARY—Chewy Candies; Caramels; Brittles
MARCH—Assorted Chocolates up to $1.00
APRIL—$1.00 and up Chocolates; Solid Chocolate Bars
MAY—Easter Candies and Packages; Moulded Goods
JUNE—Marshmallows; Fudge
JULY—Gums; Jellies; Undipped Bars
AUGUST—Summer Candies and Packages
SEPTEMBER—Bar Goods; 5¢ Numbers
OCTOBER—Salted Nuts; 10¢-15¢-25¢ Packages
NOVEMBER—Cordial Cherries; Panned Goods; 1¢ Pieces
DECEMBER—Best Packages and Items of Each Type Considered During Year; Special Packages; New Packages

Lemon Cream: Rancid
Almond Top Cream: Very hard, could not taste any flavor
Coconut Cream: Dry and hard
Chocolate Nut Cream: Good
Nougat: Fair
Vanilla Caramel: Good
Peanut Cluster: Peanuts were rancid
Pineapple Cream: Very cheap flavor
Sprill Top Chocolate Cream: Dry and hard
Foil Pieces, Nut Creams: Good
Assortment: Poor
Remarks: Too many cream centers for a one pound assortment. Cream formulas need checking, also some of the flavors. Four pieces were broken; a liner is needed. Box is too large for this number of pieces. Very highly priced at $1.35. We have examined far superior chocolates at $1.00 and $1.20 the pound.

Code 5A7
Assorted Chocolates
1 lb.—$1.20

(Purchased in a retail store, Los Angeles, Calif.)

Appearance of Package: Good
Box: Oblong shape, one layer type, white embossed paper top, name embossed in gold. White paper wrapper.
Appearance of Box on Opening: Good
Number of Pieces:
Dark Coated: 8
Light Coated: 8
Sprill Top: 1
Half Pieces of Pecan Roll: 5
Summer Coated Pieces: 7
Coatings:
Colors: Good
Gloss: Good
Strings: Good
Taste: Good
Dark Coated Centers:
Nut Cream: Good
Chocolate Cream: Good
Chocolate Buttercream: Good
Brazils: Good
Vanilla Caramel: Good
Cordial Cherry: Good
Light Coated Centers:
Chocolate Buttercream: Good
Vanilla Buttercream: Good
Nut Caramel: Good
Pecan Caramel Chew: Good
Peanut Butter Blossom: Good
Fruit Cream: Good
Walnuts: Good
Cordial Cherry: Good
Maple Walnut Cream: Good
Sprill Top Buttercream: Good
Pecan Roll: Good
Nut Fudge: Dry & Hard
Summer Coated:
Mint Cream: Good
Chocolate Cream: Good
Orange Cream: Good
Fruit & Nut Cream: Good
Lemon Cream: Good
Maple Nut Cream: Good
Assortment: Fair
Remarks: The quality of the centers is not as good as a number of other packages we have examined at this price. Suggest nut fudge formula be checked as it was very hard and dry.

Code 5E7
Coffee Hard Candy
4 ozs.—39¢

(Purchased in a department store, Los Angeles, Calif.)

Appearance of Package: Good
Container: Cellulose bag, foil clip on top printed in dark brown and white. Name in gold.
Candies: Candies have an inside printed foil band; colored cellulose wrapper with twisted ends on the outside.
Color: Good
Texture: Good
Flavor: Good
Remarks: We have examined this piece a number of times and always find it a good eating coffee candy. Well made and neatly put up. A trifle highly priced at 4 ozs. for 39¢ for this type of confection.

Code 5F7
Chocolate Coated
Coffee Chocolate Paste
8 ozs.—$1.00

(Purchased in a department store, Los Angeles, Calif.)

Appearance of Container: Fair
Container: Round paper board tube, white top and bottom covers. Center printed in brown, name in dark brown. Cellulose wrapper.
Candy: Candy is a chocolate paste coated with light chocolate. Pieces wrapped in printed cellulose.
Coating:
Color: Good
Gloss: Fair
Strings: Fair
Taste: Fair
Center:
Color: Good
Center:
Color: Good
Texture: Good
Flavor: See remarks.
Remarks: Suggest coffee flavor be checked as we couldn't taste any coffee. Very cheap looking container for this priced candy. Also candy is very highly priced at $2.00 the pound.

Code 5D7
Chocolate Coated Raspberry Jellies
7¾ ozs.—29¢

(Purchased in a department store, Los Angeles, Calif.)

Appearance of Package: Good for this priced confection
Box: Folding, one layer type. Top printed in blue, brown, red and green. Imprint of raspberries in colors.
Appearance of Box on Opening: Good
Number of Pieces: 16
Candies:
Coating, Light:
Color: Good
Gloss: Good
Strings: None
Taste: Good for this priced confection
Center:
Color: Good
Texture: Good
Flavor: Good
Remarks: Suggest manufacturer check his cost as this package is cheaply priced at 29¢ for 7¾ ozs.

Code 5B7
Assorted Chocolates
1 lb.—$1.69

(Purchased in a retail candy shop, Los Angeles, Calif.)

Appearance of Package: Good
Box: Oblong shape, one layer type. Blue embossed paper top, name in dark

blue. Paper wrapper, overall printed in blue and gold stripes, tied with blue ribbon and bow corner to corner. Gold seals on ends.

Appearance of Box on Opening: Fair

Number of Pieces:
- **Dark Coated:** 8
- **Light Coated:** 6
- **Summer Coated:** 4
- **Nougat & Caramel:** 1
- **Half Dipped Pecan Chew:** 1
- **Cellulose Wrapped Fudge:** 1
- **Cellulose Wrapped Nut Crunch:** 1
- **Cellulose Wrapped Chocolate Nut Caramel:** 1
- **Unwrapped Caramel:** 1

Coatings:
- **Colors:** Good
- **Gloss:** Fair
- **Strings:** Fair
- **Taste:** Good

Dark Coated Pieces:
- **Kernel Paste:** Good
- **Buttercream:** Dry and hard
- **Jelly:** Could not identify flavor
- **Fruit Cream:** Good
- **Cream & Caramel:** Good
- **Mint Paste & Marshmallow:** Good
- **Spiced Buttercream:** Good
- **Nut Buttercream:** Good

Light Coated Centers:
- **Molasses Chip:** Good
- **Caramallow:** Good
- **Maple Nut Cream:** Good
- **Vanilla Caramel:** Good
- **Coconut Cream:** Good

Half Dipped Pecan Chew: Good

Unwrapped Caramels: Good

Buttercrunch: Good

Wrapped Chocolate Nut Fudge: Good

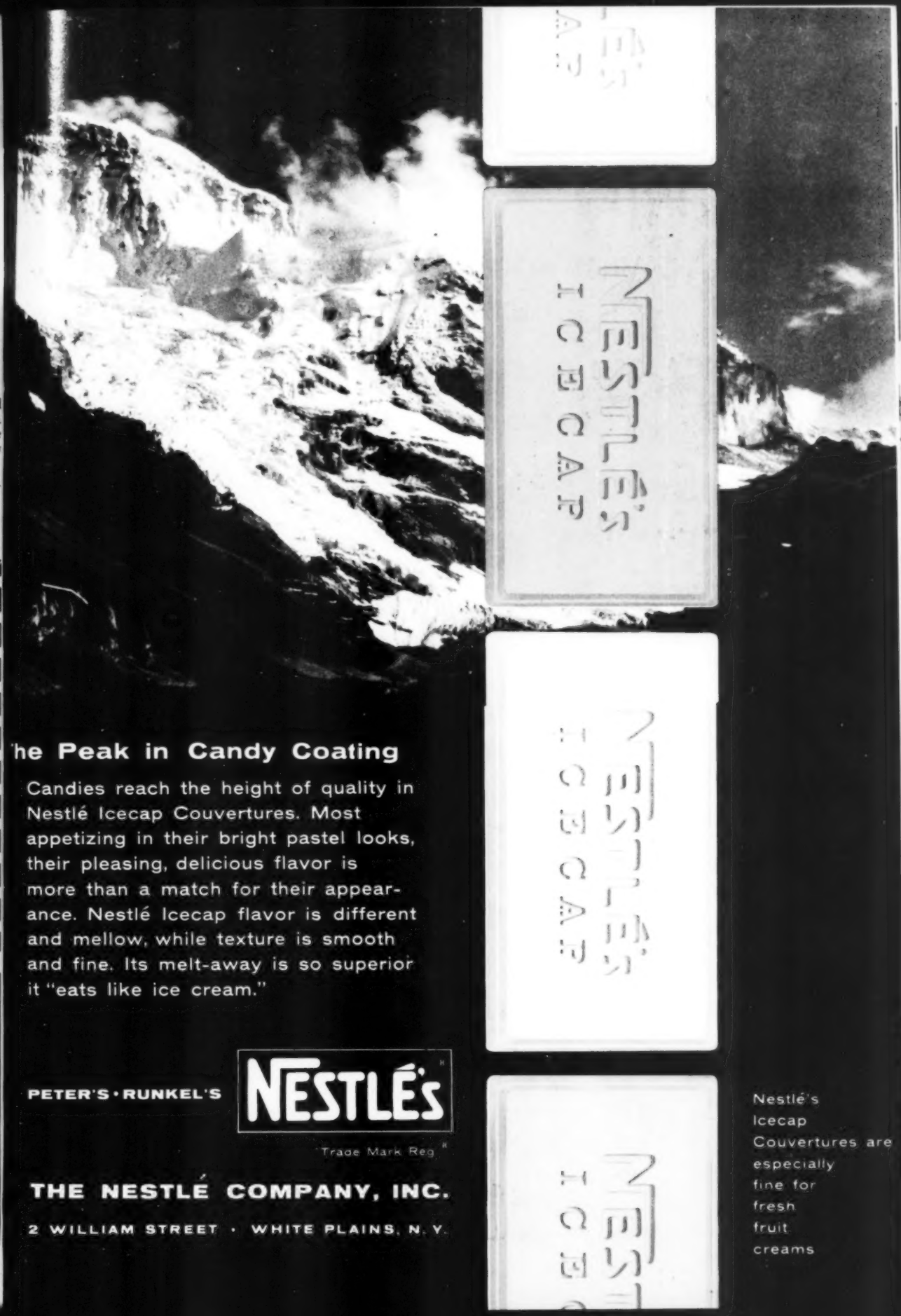
Pecan Slice: Good

Summer Coated Pieces:
- **Nut Chew:** Good
- **Cashew Cluster:** Good
- **Mint Paste & Cream:** Good
- **Buttercream:** Good
- **Vanilla Nut Fudge:** Hard and dry

Assortment: Fair

Remarks: Box is too large, suggest a good divider be used to keep pieces in place. Suggest a liner be used. Some of the pieces are not up to standard. Highly priced at $1.69 the pound.

All Subscribers are entitled to send samples of their candies to the Candy Clinic for analysis and report. Address duplicate samples, with approximate retail price, to The Candy Clinic, c/o The Manufacturing Confectioner, 418 N. Austin Blvd., Oak Park, Illinois.



The Peak in Candy Coating

Candies reach the height of quality in Nestlé Icecap Couvertures. Most appetizing in their bright pastel looks, their pleasing, delicious flavor is more than a match for their appearance. Nestlé Icecap flavor is different and mellow, while texture is smooth and fine. Its melt-away is so superior it "eats like ice cream."

PETER'S · RUNKEL'S NESTLÉ'S

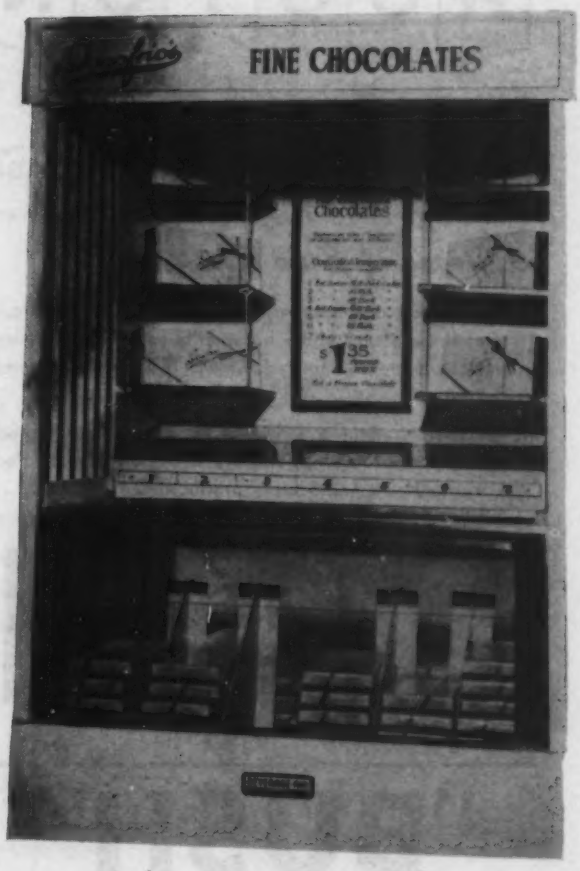
Trade Mark Reg.

THE NESTLÉ COMPANY, INC.

2 WILLIAM STREET · WHITE PLAINS, N. Y.

Nestlé's Icecap Couvertures are especially fine for fresh fruit creams

Selling through supermarkets



Converting standard open self-service refrigerated display cases designed for soft drinks into compact, eye-catching boxed-chocolate display units has paid real dividends for Donofrio Confectionery Company, Phoenix.

Joe Donofrio, president of the firm, which has been manufacturing candy in the Phoenix area since 1887, went into the refrigerated display fixture a little more than a year ago as the only practical way to keep pace with a rapidly expanding market. Sunny Phoenix, with its pleasant year-around temperatures, has been expanding at the rate of 5,000 new families every month. Donofrio needed a positive method of introducing its fine locally-manufactured boxed chocolates to as many new customers as possible.

New shipping centers sprung up around the edges of Phoenix, too small to support a retail candy store, yet big enough to attract shoppers and keep many from frequent trips to the downtown shopping area. In order to take advantage of the expanding population of the metropolitan area, Donofrio had to tap the shopping traffic at these new outlying shopping centers.

With several new retail stores out of the question, the answer was in leasing space in supermarkets in these areas. Donofrio previously had an unfortunate experience with selling his candy through supermarkets where the candy was displayed in whatever display case had room. In this recent move into supermarkets, he made up his own display case, with good display superstructure, and this proved to be the key to substantial sales in this type of outlet. Leases in six of the largest and busiest stores in the major shopping areas around Phoenix were negotiated.

To set up displays in keeping with the top quality boxed chocolates, Donofrio decided that he needed something outstanding in the way of a refrigerated display case. The usual "ready-made" case didn't fit into the picture, because he felt that he needed some type of colorful, eye-catching case, which would automatically associate itself with quality candy in the shopper's mind.

Donofrio ordered six Beverage-Air block-type refrigerated display cases and then built his own superstructure. Constructed of hardwood, the superstructures are designed to serve as display units for each boxed assortment of chocolates which the store offers, and to elevate the candy display well above average refrigerator case height.

The display consists of a white box-like structure, open at the front, which completely encloses the four-sided, glass-topped beverage display case below. The sides of the superstructure were built from hardwood one inch dowels, while the back is a single sheet of hardwood plywood. Suspended on either side are three levels of display shelving, 12x8 inches, secured in place by another dowel, running through the corners of each shelft o the "ceiling." Immediately below these, at eye level, is a glassed-in display shelf which shows seven opened one pound boxes of chocolates, numbered in sequence from 1 to 7 across the length which permits the chocolate customer to pick an assortment without opening the box. Wooden divider slots below in the refrigerator case are marked with corresponding numbers so that the customer who wants an assortment of both dark and light chocolate, for example, simply looks at number 4 in the open display shelving and then selects a sealed box of chocolates under the number 4 classification in the case below.

An innovation which has helped to keep the open boxes of chocolate on display at waist height in perfect condition was boring holes in the bottom of the shelf which permit cold air from the open self-service refrigerator case to circulate through this area. There has been no difficulty in melting of sample chocolates in any location to date.

The superstructures have been built for a cost of $50, this amount including time, materials, professionally lettered signs, etc. The result of this investment in display cases has been an average from six to twelve dozen one pound boxes of chocolates per week in all locations, a continuing increase from each store!

One of the most important results of this move into neighborhood shopping centers is the obvious increase in business of the retail store. Donofrio figures that one of every three new customers was introduced to the firm's candy in one of the food stores.

Delivery to the stores is on a twice weekly basis, and Donofrio does the checking and stocking, and stocks only the amount expected to sell within four days. All candy boxes are dated, to enable close control of inventory.

The same assortments are available at the same price as at the retail store. Customers soon find, however, that the retail store carries a much larger selection of special candies, and often make it a regular stop on their infrequent shopping trips to downtown Phoenix. The expansion into neighborhood food stores has served its purpose in acquainting hundreds of new residents with Donofrios, and making the name and quality familiar to them before their first trip to the downtown shopping area.

CONFECTIONERY ANALYSIS and COMPOSITION

By
Stroud Jordan, M.S., Ph.D.
and
Katheryn E. Langwill, M.S., Ph.D.

This volume, first published in 1946, is still the only published reference work on the subject of confectionery analysis. The pioneering work done by Dr. Jordan remains the standard in the field, making a second printing of his book necessary. This printing is in all respects identical to the first printing.

This volume concerns itself with applicable data that covers the composition of basic raw materials as well as that of the finished confections in which they have been employed.

In assembling this volume reference is made to applicable methods. Where satisfactory methods of analysis are of general knowledge they are incorporated by reference. All specially developed methods and procedures are incorporated in detail.

In the reconstruction of formulas from analytical data, certain basic assumptions must be made, and these are thoroughly explained. The second part of this volume deals with the several confection groups, and full discussion of particular analysis and calculation of composition problems of each group are discussed.

The book is expected to be ready for distribution by June 1. Use the order form below, your book will be mailed as soon as copies are available.

Chapters

Moisture (Ch. 1)
Ash (Mineral Matter—Ch. 2)
Sugars (Ch. 3)
Starches (Ch. 4)
Proteins (Ch. 5)
Fats (Ch. 6)
Colloidal Materials (Ch. 7)
Nuts and Fruits (Ch. 8)
Acids (Ch. 9)
Incidental Materials (Ch. 10)
Reconstructed Formulas (Ch. 11)
Hard Candy (Ch. 12)
Coated Candies (Ch. 19)
Sugar Cream (Fondant Ch. 13)
Fudge (Ch. 14)
Caramels and Toffees (Ch. 15)
Marshmallow (Hard & Soft Ch. 16)
Nougat (Ch. 17)
Gums and Jellies (Ch. 18)
Coated Candies (Ch. 19)
Appendix

Supply Field News

Buhler Brothers, Inc., importers of chocolate processing equipment, have moved their offices and service department to a new building at 130 Cooldige Ave., Englewood, New Jersey.

Foote & Jenks, Inc., flavor manufacturers of Jackson, Michigan, has announced the development of a new Butterscotch flavor. It is claimed that this new item is considerably superior to other such flavors on the market.

Mr. J. G. Reuchlin, General Manager of Lenderink & Co. of Holland, arrives in New York April 27 for about a month to review his marketing arrangements for the firm's Hyfoma, a milk protein based whipping agent.

Alexander N. McFarlane has been elected President of Corn Products Sales Company, the marketing agency of Corn Products Refining Company. He joined the firm in the technical service department in 1934, and was most recently vice president and general sales manager.

Cliff Spiller, formerly general manager of Walter Baker and Franklin Baker Divisions of General Foods Corporation has joined the advertising agency of Sullivan, Stauffer, Colwell and Bayles of New York City.

International Packaging Show

The first International Packaging Show, known as Interpack, is scheduled from March 2 through 9, 1958, at Duesseldorf, Germany. It is expected that a full range of packaging supplies and equipment, with related items, will be shown here.

Maple sugar crop

An exceptionally large crop of maple syrup in Canada this year is expected to provide plentiful supplies for all users. The estimate is 40,000,000 pounds of syrup and sugar, up from 35,000,000 last year.

Philadelphia AACT Officers

The new officers for the Philadelphia section of the American Association of Candy Technologists are; Chairman Philip J. Wunderle, Ph. Wunderle; Vice-chanrman Robert J. Minter, Shellenberger's Inc.; Secretary-Treasurer Hans F. Dresel, Felton Chemical Co.; and Councillors F. M. Demerath, Plantation Chocolate Co., and A. R. Murray, Minter Brothers, Inc.

SUGAR REPORT

by Charles Fuchs

Other than the continued strength in the world market, little of special significance has taken place in the sugar market during the past month. Refined prices have remained unchanged and buyers are confining their purchases to actual requirements. Domestic spot raws sold early in the month at 6.20 duty paid, but for the most part, sugars moved at the 6.10 duty paid level.

As far as the world market is concerned, on March 29th spot prices were 6.10 and with the continued demand prevailing in world sugars prices advanced from week to week to 6.17, 6.55, until a high figure of 6.85 was hit on April 22nd and at this writing (April 29th) 6.65. In the meantime, since March 29th also futures advanced from 6.04 to 6.90. The advance was augmented initially by the purchase of 150,000 tons by Russia, and the steady demand from other sources, most important of which was Japan and the United Kingdom. With this interest prevailing Cuban production is being carefully watched. As reported by the Cuban Institute, production to April 15th amounted to 4,432,106 Spanish long tons and based on the turnout to this date, it is possible that the final figure will be higher than the original estimate of 5,150,000 tons. Nevertheless it is felt that any additional sugars can readily be absorbed in the market. To add to the tight situation in supplies, a report was publicized during the month that the United States Department of Agriculture had asked Cuba to increase its reserve stock for the United States market by 150,000 tons due to the fact that Puerto Rico may fall short by 100,000 tons in its quota for 1957. This was brought about, it was believed, due to the report that the Department of Agriculture had been concerned over statements that Cuba might have to draw on 1958 reserves to fill recent world market orders. Also not to be overlooked are the recent developments in the mid-East situation as it can be recalled that the spirited buying was brought about during the recent conflict in that area.

Fudgies go national

Kraft Foods has announced that their Fudgies, marketed locally in various sections of the country this past year, will now be distributed nationally, supported by extensive national advertising.

A new plant for Alma

Alma's Candies have consolidated their two plants, the former Honey Crisp plant and the former Alma plant, in a three story building at 1646 Lake Street, Chicago.

Sampler's in the Air

National Airlines are serving Whitman's Sampler to passengers on their "Star Flights" for the East Coast to Miami, to top off a dinner of Filet Mignon.

CALENDAR

May 19-22, Flavoring Extract Manufacturers Assn., Hotel Roosevelt, New York, New York.

May 20 New England Retail Confectioners Association, Annual Meeting, Publick House, Sturbridge Villiage Massachusetts 3 P.M.

May 23: The Candy Square Club of New York Annual week end outing at Kiamesha Lake, New York.

May 25—Annual Dinner Dance of the Empire State Candy Club, New Onondaga Hotel, Syracuse, New York Cocktails 6PM

June 6, 1957: Confectionery Salesmens Club of Baltimore will hold its annual STAG outing on Thursday, June 6, 1957, at Conrad Ruth's Villa, Middle River, Maryland. Robert Rosenberg is chairman.

June 9, 10, 11, 12, 1957: INTERNATIONAL FANCY FOOD AND CONFECTION SHOW. PALMER HOUSE, CHICAGO, ILLINOIS

June 9-12—Associated Retail Confectioners of U.S.A. Annual convention, Drake Hotel, Chicago.

June 9-13—National Confectioners Association Annual Convention and Exposition, Conrad Hilton Hotel, Chicago.

June 18-21—Southern Wholesale Confectioners Association, Inc., Convention and Trade Show, Jung Hotel, New Orleans, La.

June 21-23: Metropolitan Candy Brokers Association, Exhibition, Hotel Commodore, New York City.

July 14-18—National Candy Sales-Mens Assn., Buffalo, N. Y.

July 28-August 1—National Candy Wholesalers Association Annual Convention, Chicago, Ill.

September 10, 11, and 12: The Cocoa, Chocolate, and Confectionery Alliance will hold a conference in London.

September 12, 13, 14: Michigan Tobacco and Candy Distributors Association, Ninth Annual Convention, Hotel Statler, Detroit, Michigan.

October 28-30—Packaging Institute, Annual Forum, Statler Hotel, New York, New York

December 12-13, Western Confectionery Salesmen's Assn., La Salle Hotel, Chicago.

The MANUFACTURING CONFECTIONER'S Clearing House

MACHINERY FOR SALE

FOR SALE

Model S #3 Savage Fire Mixers.
50 gal. Model F-6 Savage Tilting Mixers, stainless kettle.
200 lb. Savage Flat Top Marshmallow Beaters.
Friend Bostonian Model and Merrow Cut-Rol Cream Center Machines.
50" two cylinder Werner Beater.
1000 lb. Werner Syrup Cooler.
200 lb. to 2000 lb. Chocolate Melters.
Simplex Gas Vacuum Cooker.
Simplex Steam Vacuum Cooker.
600 lb. Continuous Vacuum Cooker.
Form 3 and Form 6 Hildreth and Factory Model American Pullers.
6' and 7' York Batch Rollers.
National Model AB Steel Mogul.
National Wood Starch Buck.
38" Copper Revolving Pans.
Ball and Dayton Cream Beaters.
100 gal. Copper Mixing Kettle with Double Action Agitator.
We guarantee completely rebuilt.

SAVAGE BROS. CO.
2636 Gladys Ave. Chicago 12, Ill.

FOR SALE: 2W6 Hudson Sharp arranged for inner and outer wrap. Complete with glue attachment, heat sealer and tuck-under device, side feed, and electric eye. Box 1261 **The MANUFACTURING CONFECTIONER.**

FOR SALE: Simplex Gas Fire Cooker, Racine Super Duplex Sucker Machine, Wrap-Ade Pop Wrapper, 3x6 Thos. Mills Slabs, 100-lb. Puller. Box 1264 **The MANUFACTURING CONFECTIONER.**

FOR SALE: Rose 500, cylindrical piece 1⅜" x ⅜"; GH-2 Package Machinery Wrapper; LP-3 Sucker Wrapper; 600-lb. N.E. Continuous Cooker. Box 1262 **The MANUFACTURING CONFECTIONER.**

FOR SALE: TL-A Box Set-Up Package Machinery; Simplex Steam Vacuum Cooker; Lynch 5¢ patty Wrapper; 24" Greer Enrober with bottomer and Tunnel. Box 1263 **The MANUFACTURING CONFECTIONER.**

FOR SALE: 1-High Speed Rose Twist wrapping machine, No. 500 which will wrap a piece 1-1/4 x 1/2 round. 1 E P Sucker Machine with conveyor and 3 sets of rollers.—1-6 Foot Batch Roller, electrically heated. Reply to Box 575, **The MANUFACTURING CONFECTIONER.**

MACHINERY FOR SALE

FOR SALE: One 32" National Enrober. 2-Peerless Plastic Machines with 1 die each. 6-York Batch Rollers. 2-Old type Hansella Batch Rollers. 2-1,000 lb. National Chocolate Kettles. 1-800 lb. Duplex Chocolate Kettle. 1-Hudson Sharp Wrapping Machine with electric eye. 2-10 HP Mears Kane Steam Boiler. 2-Model K Kiss Machines with automatic feed for wrapping balls 3/4" to 1" in diameter. **GOLD MEDAL CANDY CORPORATION,** 2849-67 West Eighth Street, Brooklyn 24, New York.

FOR SALE: Two New England Formomatic No. 175 Friend Hand Roll Machines complete with dies and trays. These machines are in perfect working order as they have just been taken out of the production line. Reply: Box 571, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Savage late model S-48 open fire mixers. Six and Eight foot batch rollers. Reply Box 572, **The MANUFACTURING CONFECTIONER.**

FOR SALE: 1 Model K Kiss Wrapper for 3/4" x 5/8" Piece (New. Has not been used). Reply: Fred W. Amend Co. Phone: 6-3700, Danville, Illinois.

FOR SALE:

2 Fergusin & Hass—Bar Wrappers—Bar Size 4-3/8 x 1-1/2 x 3/8.

1 C.A.2—Package Machinery—Bar Wrapper—Size 4-3/8 x 1-1/2 x 3/8.

1 B.W.2—Package Machinery—Over Wrap Up to 7" x 16" x 4" Cellophane or Wax.

1 Knap Over Wrap Cellophane—Size 7" x 2-1/2 x 5/8.

All in very good condition. Address Box 576, **The MANUFACTURING CONFECTIONER.**

FOR SALE: 1 National Labeler and Parts, 1 Union Confection Mint Breaker, 1-8 Ft. Mills Cast Water Cooler, 2-Holmes Filling Machines, 2-Triangle Filling Machines-Model C, 1-Triangle Weigher, Model G1, 1-Fuller Filling Machine-two spouts, 1-50 lb. Fryer or Cooker complete, 1-Burns Roaster Cooling Tray, 1-Mills No. 17 A Mixer with swinghead, 2-Large Candy Furnaces, 2-Amsco Heat Sealers and 1-Bauers Peanut Butter Mill. Box 577, **The MANUFACTURING CONFECTIONER.**

FOR SALE: Three Package Machinery LP Pop Wrapping Machines, good condition. Subject to prior sale. Box 475 **The MANUFACTURING CONFECTIONER.**

SITUATIONS WANTED

FOREMAN: Available for Large Candy Manufacturer to take charge in all phases of Candy pan line including Starch, Jelly, Cream, Fudge. For Halloween and Easter Candy, Bubble Chewing Gum Base, and Slab work.

I will teach the above anywhere in the states and foreign countries. Box 476, **The MANUFACTURING CONFECTIONER.**

CANDY MAKER, over twenty years experience in Jellies and Gum Candies, desires position. Reply Box 574, **The MANUFACTURING CONFECTIONER.**

HELP WANTED

Well known Eastern Pennsylvania candy manufacturer wants an aggressive candymaker to manage production and develop new lines. Must have practical experience and know-how and make a sizeable investment. Large present volume can be increased with additional items in available space. Write in full to Box 372, **The Manufacturing Confectioner.**

WANTED: Leading New England roadside candy-ice cream manufacturing retailer is seeking competent manager. Top pay, with attractive bonus awaits the right man. Please reply in fullest confidence to Box 573, **The MANUFACTURING CONFECTIONER.**

BUSINESS OPPORTUNITIES

SARASOTA FLORIDA—FOR SALE: Caruso's Candy Kitchen, 1588 Main Street, 4 years same owner, doing good business in one of the fastest growing cities in Florida. Owner unable to take care of it.

Do you want to buy or merge with a well established medium sized firm manufacturing candy specialties in Eastern Pennsylvania? Large present volume can easily be increased with additional items in available space. Plant is modern and has new bulk sugar handling system and automatic machinery. Would make an Ideal East Coast set-up for a Mid-West manufacturer. Write to Box 371, **The MANUFACTURING CONFECTIONER.**

For Sale Piecemeal!

Confectionery Machinery and Equipment

formerly used by

OHIO CONFECTION CO.

At Lisbon Road and Evins Ave., Cleveland, Ohio
Phone: GArfield 1-8518

Visit this prominent plant!

EQUIPMENT PRICED VERY LOW FOR QUICK REMOVAL!

INSPECTION INVITED
Representative on Premises
To Quote Special Low Prices
And Arrange Immediate Shipments

HECK THIS LISTING OF HIGHLY DESIRABLE CANDY MACHINERY

MOGUL DEPARTMENT

National Equipment Fully Automatic ool Mogul and new 24" high Stainss Steel Depositor Hopper. 6 asorted modern Pumps.

Corn Stacker with motor.

roximately 5,000 Starch Trays with arch.

Lot Aluminum Mould Boards.

Great Western Starch Sifter with ool Bucket Elevator.

Roy Roball Sifter.

Coombs Gyratory Sifter.

National Equipment 600 lb. Syrup oiler and Cream Beater.

Savage 110 gal. Marshmallow Beater, oval shape top, with motor.

Triond Bostonian Plastic Center Machines with 9 Dies and lot wood trays, ne with dollies.

National Equipment No. 2 Depositor ith 6 Pumps and with 50 ft. Conveyor.

Dayton 5 ft. Cream Beaters, m. d.

Anderson Jap Cutter.

Peerless 1½ bbl. Dough Mixer.

Hobart Fruit Grinder.

REVOLVING PANS

25—Revolving Pans, Holmberg, Burkhardt, Kopperman, with and without coils.

Complete Latini Chocolate Spray System with Jacketed Pump, Jacketed Piping and Spraying Heads.

1—Burns 5 bag Roaster.

1—Lambert 2 bag Roaster, motor driven with reduction drive, Blower, Cooling Truck.

Bauer Slicer . . . Bauer Nut Chopper . . . Special 6" Nut Breaker.

1—24" Packing Conveyor, 40 ft. with motor.

KETTLES

1—National Equipment 50 gal. 3 Speed Double Action Tilting and Mixing Kettle.

High Pressure Steam Jacketed Copper Kettles, 15 gal., 30 gal., 50 gal., 60 gal. and 75 gal. capacities.

1—National Equipment EB Cream Remelter with motor.

2—Savage Model S Open Fire Mixers with Stoves and Kettles.

1—Werner 35 gal. Cream Breaker with geared head motor.

2—3 speed Hobart 80 quart Mixers.

2—Century and Triumph 30 quart Mixers.

13—Open Fire Kettles.

WRAPPERS

1—Lynch Wrapper with Electric Eye, Model PB, cardboard roll feed with motor.

1—Lynch Wrap-O-Matic Wrapper, Model LPB, with Electric Eye.

1—Hayssen Model 7—11 Wrapper with Electric Eye and motor.

1—Triangle Elec-Tri-Pak Gravity Feed Weigher, Model N3A.

1—Miller Cellophane Sheet Cutter and Wrapper, motor driven with motor.

1—Amsco Bag Sealer with motor.

HARD CANDY

2—Simplex Steam Vacuum Cookers.

1—Hildreth Form 3 Puller with motor.

1—4" x 7" Drop Machine with 10 sets of Rollers, motor driven.

1—Drop Machine, motor driven, with 2" x 3⅛" wide, 25 Rollers.

2—8 ft. and 6 ft. York Batch Rollers with motors.

5—3 ft. x 8 ft. Cooling Slabs.

1—Lot Slate Slabs.

5—F. D. Gas Stoves.

1—Schutz O'Neill #o Sugar Pulverizer.

CHOCOLATE DEPARTMENT

2—National Equipment 24" Enrobers with Cooling Tunnels and Packing Tables. One with Bottomer.

2—National Equipment 16" Enrobers with Bottomers, Cooling Tunnels.

4—National Equipment 500 lb. Chocolate Melters.

2—Racine 500 lb. Chocolate Melters.

9—National Equipment 300 lb. Chocolate Melters.

11—Single Electric Heated Dippers.

REFRIGERATION

1—York 5 ton Yorkaire Conditioner, motor driven.

1—10 ton Freon Unit with motor.

1—Surface Combustion Kathebar Air Conditioner with motor and blower.

1—York 5 ton Air Conditioner.

3—York, Phoenix and Lipman Ice Machines.

1—Bentz Chillblasts with blower, motor.

MISCELLANEOUS

20 Exact Weight Scales, all types and sizes . . . 15 Table type Platform and Balance Scales . . . 10—500 lb. Platform Scales . . . 1—Howe Built in Floor Scale.

MUST BE SOLD AND MOVED IMMEDIATELY

- Equipment was in operation until recently and is in first class operating condition.
- Machinery is still set up in original position.
- All offerings are subject to prior sale.

Act now for choice selection!

WRITE . . . WIRE . . . PHONE to our New York or Chicago offices for further details and for our special low bargain prices. You can also phone plant directly at Garfield 1-8518.

UNION Rebuilt Machinery Established 1912

UNION

CONFECTIONERY MACHINERY CO., INC.

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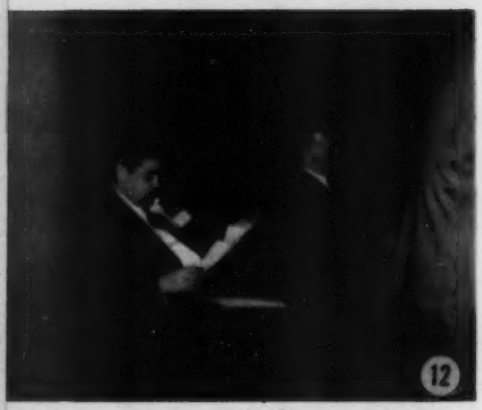
New York 12, N. Y.
CAnal 6-5333-4-5-6

167 North May St.
Chicago, Illinois
SEely 3-7845

Production Conference Pix

(1) Stan Ferris of Dairyland Food Labs taking a break with Joe Downey of Walter Baker... (2) Pete Kalustian of Drew leaving registration table and Otto Windt of Brach's checking with Hostess Marie Kelso... (3) Hans Dresel enjoying a joke with Dr. Stern and Wally Haug of Mason and Victor P. Victor... (4) Herb Knechtel of Knechtel Laboratories on the podium. (5) Oops! Just Harry Schuemann of Curtiss driving home a point at the conference??.. (6) Real competitors comparing notes with Peterson, Terry and Kneeland of Schrafft, Wallace and Schrafft... (7) Floyd Roses of Curtiss taking the heat off the conference... (8) Justin Alikonis of Paul F. Beich comparing notes with Lloyd Latten of McAfee.



(9) Jim King of Nulomoline in his usual pose... (10) Charles Carilli of Edgar P. Lewis speaking on the panning of candy... (11) Could the subject be chocolate between Joe Downey and Norman Kempf of Walter Baker?... (12) John Vassos checking for speakers name while Tresper Clarke of Neilson listens... (13) Ed Morgan of Reflectotherm discussing theory with Rudy Kroekel and Bill Duck of F & M... (14) Hebden and Nuss of Merckens checking plans for the Philly retailers with Otto Glaser... (15) Tresper Clarke of Neilson, an early arrival with Al Meyers of Hershey... (16) Pat Cosler of the QM expounding on the storage of candies, while (17) John Vassos and Hans Dresel confer in the back room, and (18) Bud and Bob Minter of Minter's running for the next session.

Advertisers' INDEX

Advertisements of suppliers are a vital part of the industrial publication's service to its readers. The following firms are serving the readers of *The Manufacturing Confectioner* by placing their advertisements on its pages. The messages of these suppliers are certainly a part of the literature of the industry. Advertising space in *The Manufacturing Confectioner* is available only to firms supplying equipment, materials, and services for the use of confectionery manufacturers.

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doodlings — *by tom sullivan*

To SPELL OUT the obvious is often to call it in question, says Eric Hoffer.

Not to do so might cut rather deeply into the already meager earnings of Herr Professor.

• • •

TEN YEARS from now the best scientists in the world will be found in Russia, avers Dr. Edward Teller, atomic scientist, in the "Minneapolis Tribune."

Some of our own technologists wonder how many expatriates will be among them, and whether ultimately they will be found in European Russia or in Siberia.

• • •

IT COULD BE just as Marjorie Murch Stanley says, "Some of the narrowest minds are found in the fattest heads."

• • •

REP. CLARENCE CANNON, chairman of the House Appropriations Committee, observed recently:

"The alarming thing about this alarming budget is that no one is alarmed at it."

Would you say Cannon was merely popping off?

• • •

AN OLD DANISH peasant on his death bed asked of his son one promise: that he should sit *alone* for a half hour each day in the best room of the house. The son did this and became a model for the whole district. This father's command had taken thought for everything: for eternity, soul-deepening, refinement, history. Or so says Anker-Larsen, Danish writer.

Perhaps this explains why so many sons do likewise in the *best* room in the factory. Or so says Hans Dresel.

• • •

SOME MEN retire to cut coupons, others to cut paper dolls, and a fortunate few to become consultants or public relations counsellors.

• • •

DOROTHY THOMPSON in "Ladies Home Journal," offers this thought on leisure:

"Few who have been active all their lives are capable of enjoying total leisure. Ours is not a leisure society and the creative use of leisure is not something one can begin to cultivate at sixty. We are a nation of workers. And in this particular society and time, those who are entirely cut off from the world of work are cut off from life itself."

• • •

YOU MAY have noticed that some of the "fast buck" boys are being allowed plenty of time to try to get out from under.

• • •

YOU PROBABLY have no idea how many people are in the business of getting back to scratch without any.

• • •

YEP, IT'S A BRIGHT sunny day with a nice nip in the air and the horses are running at Jamaica, but we have a quota to make and the boss really pays off.

Believe it or not, we got this one from a New York candy salesman yclept Eddia Vaccaro.

• • •

QUOTING DAN BENNETT:

Many times a tight sweater goes with a loose caboose.

• • •

DR. R. A. MILLIKAN offered through "Forbes" this definition of an educated person: "one who can converse on one subject for more than two minutes."

This is a mighty high but thoroughly deserved rating for all those candy salesmen at the recent NATD convention.

• • •

AL APONG has something to say which you may want to remember:

"A few reels of old vacation films usually put your guests in a traveling mood."

• • •

OH HENRY's Dan Fitzpatrick slips us this one:

"If a man supports his family, why shouldn't he be the best dressed member of it? The American male has a lot to learn."

This writer is one of 'em, but this much he knows: His wife and kids would look like hell in his hand-me-downs.

• • •

YE DOODLER could have told you six weeks ago who's going to win this year's Candy Oscar, but to have done so would have killed his chances.

• • •

EMPLOYMENT COUNSELOR (National Assn. of Personnel Consultants) tells us that in the last five centuries—probably 20 generations—1,048,576 people have contributed to one's personality.

Perhaps this explains why we have so many "mixed up kids."

• • •

DEATH IS NOT a period but a comma in the story of life, says Dr. Amos John Traver in "Christian Herald."

Sorry, but we remain unconvinced. For it could be a hyphen, a colon, a semi-colon, or even an exclamation point. But one thing's for sure, it's not a question mark.

• • •

THANKS TO THE manufacturer who's going to put out a line of *Candy Doodles*. Let's hope they sell better than Horseshoes.

Nutty favorite wins new friends

ALMOND WHIP BAR

Any way you make it, or top it (or coat it) this delicious rum-flavored combination of chocolate and roasted almonds is sure to bring you new friends. More customers, too, whether it's a piece in a box or a bar with a fancy wrapper. You save on raw material and labor costs if you make it with Blue Diamond Whole-and-Broken or Sheller-Run grades, roasted and diced in your plant. You'll find Blue Diamond quality pays you dividends right down the line. Controlled minimum moisture content. No dust or foreign particles. More good almonds for your money. Samples and price list sent on request. Write on your letterhead, please.

Blue Diamond ALMONDS

CALIFORNIA ALMOND GROWERS EXCHANGE

Sacramento, Calif.

Sales Offices: 100 Hudson St., New York 13, and 549 W. Randolph St., Chicago 6

BLUE DIAMOND BRAND

Here's your formula

10 lbs. milk chocolate coating
5 lbs. hard coconut butter
7 lbs. frappe
5 lbs. almonds, Blue Diamond Whole-and-Broken or Sheller-Run, roasted and diced
1 oz. salt
rum flavor to suit

Mix melted coconut butter and melted chocolate together. Allow to cool. Pour in small kettle cake mixer. Whip, adding frappe. Whip until fluffy. Add salt and flavor and 5 pounds diced-roasted almonds. Pour on wax paper and spread approximately ½ inch thick. When batch has set and cooled, remove wax paper and cut to desired bar size.